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# COMMUNICATIONS IN THE FAR EAST

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One Japanese gold yen = 2*s*. 0½*d*.
One Mexican dollar = 2*s*.
One Haikwan tael = 2*s*. 11*d*.
One metric ton = 1,000 kg.
One ton of shipping = 40 cubic feet; = 1·19 cubic metres.
One English mile = 1,609 metres.
One nautical mile = 1,855 metres.
One Japanese ri = 3,930 metres.
One Chinese li = 444 metres.
One acre = 4,046 square metres.

# COMMUNICATIONS IN THE FAR EAST

## PART I

## GENERAL INTRODUCTION

## CHAPTER I

### EXISTING NATURAL AND ECONOMIC CONDITIONS

It is a generally recognised fact that during the decade following the World War the importance of the countries of the Far East * has increased in a relatively greater measure than anyone would have imagined possible during the first years of the present century. As a consequence of the War great changes in economic and political conditions and an entire re-grouping of the economic forces of the world have taken place, as a result of which the centre of gravity of the economic forces of the world has shifted from Europe to America and Asia, and from the Atlantic Ocean to the Pacific Ocean.

An enquiry into the more recondite economic or political causes of these changes would be outside the scope of the present work. These changes in the world's structure have been results of a large number of causes and chains of events, the clearing up and consequent proper appreciation of which will only become possible during the next decades of this century.

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* We are using the term " Far East " in our present enquiry so as to include China, Japan, Japanese possessions and territories belonging to Japan's sphere of interests. Although the word " Far East " is not an absolutely definite geographical term, it has nevertheless passed into general use to such an extent that we consider its use permissible, particularly because from the point of view of communication policy the territory in question possesses in many respects a uniform character.

It is, however, necessary that we should point out, in a few words, a number of circumstances which justify us in believing that it will be in the countries of the Far East that in the near future the economic struggles of the large nations of the world will take place, and that the importance of these countries will probably continue to increase parallel with the economic decline of Europe.

The first point that should be noted in this connection is the question of China as a producing and consuming country. China which, without the territories connected with it by political bonds of a looser kind only, extends over an area of about 6,420,000 square kilometres, equal to about three-quarters of the area of Europe, and has a population of 450 million, or about one-quarter of the world's total population, represents a most powerful economic unit. At present, however, the standard of life of the overwhelming part of the Chinese population is so low that, in spite of its large numbers, this population does not represent any large body of purchasers and consumers of the products of other lands. On the other hand, one of the most important causes of the present economic depression is to be found in the fact that European countries have become impoverished in consequence of the War, and are therefore no longer able to purchase the products of European and North American industry, both of which have been over-developed during the War and in the years following the War. European as well as American industry, accordingly, finds itself faced with the imperative necessity of opening up new consuming territories where their products can find an outlet. Practically the only country suitable for this purpose is China. The endeavours to achieve this aim are, however, at present handicapped by the low cultural level of the Chinese population, and it will no doubt take a considerable time to remove this difficulty. If it is desired to turn these 450 million new consumers into active members of the world's economic life, it will, in fact, be necessary to raise the cultural level of the population and to increase its demand for the implements of civilisation.

It is this idea which will determine the course of future events, which will take shape with the inevitable logic of historic necessity. Particularly, it will be inevitable that British, American, German, Japanese and Russian industry will meet in a fierce economic and political struggle for the Chinese market. One of the great events of this struggle will be the awakening of China as a self-conscious national entity. As to the British Empire, it is still uncertain what changes events in the Far East will cause in its present constitution. To-day, already, these events are foreshadowing themselves. War in Manchuria and around Shanghai, unrest in India and the movement of Indian nationalists directed against British goods, and increased Russian activity in Asia, all combine to create the impression of a great thunderstorm brewing.

No doubt the Far East will very soon become the place where forces from different directions will clash. Ever since the time when the capitalist system of economy first attained its full development there have been certain regions of the globe, varying as time went on, which have figured as nodal points of the paths of progress of the various nations of the world. In addition to such factors, however, as have been operative in those other territories where economic forces of the world clashed with each other up to now, a new factor has to be taken into account in the case of the Far East. Wherever the white race has been conquering new territories up to now it has met no really appreciable resistance on the part of the native population, the latter having in no case been able to prevent the white race from obtaining domination. In the Far East the situation is different. The nations living there are themselves partners in the business of the world, and among all coloured races the yellow race is the only one over which no rule is exercised by white men.

All these factors should be duly taken into account when studying Eastern Asia from any point of view.

Now if all that has been expounded in the preceding paragraphs is correct, and if the event of making China participate more intensely in the economic life of the world, as a producing and consuming territory, is going to be brought about, it is evident that one of the preliminary conditions for achieving this aim consists in the development, up to a certain point, of means of communication in the Far East. In fact, for the purpose of raising the Chinese population to a higher cultural level alone, suitable development of the means of transport and, in general, of communication, will be indispensable. It is only with the aid of suitable means of communication that any territory can be economically utilised. This axiom has remained true during the whole course of history, from remotest antiquity down to our present time. Wherever human beings live, the first necessity which arises with the development of culture is the transport of persons, goods and letters. The development of economic life gives rise to specialised requirements and consequently to specialisation of the means of communication. The higher the degree of development reached by economic life in any part of the world, the higher will be the level to which means of communication will have to develop on the territory in question.

In our present work we intend to discuss the means of communication of the Far East. We desire to describe the present state of the means of communication there, mentioning all the problems which arise in this connection owing to existing conditions. Before proceeding to do so, however, it is necessary, in order to render our subsequent treatment of the subject as clear as possible, that we should first discuss a few general and theoretical points.

In order that communication may develop in any territory, the co-operation of a number of factors is necessary. These factors may be classed under two great headings.

1. *Human Will.*—Man, as a rational being, is able to unite, control or discard, in the interest of a predetermined aim, and in accordance with a preconceived plan, the various available means.

In order that the human will should set about organising means of communication, it must be induced to do so by considerations of profit or other motives of expediency.

2. *Means Available.*—Under this heading we include all available materials, energies and natural conditions without which it would be impossible to establish means of communication. These may be divided into four groups, viz.:

### THE VARIOUS BRANCHES OF COMMUNICATION

| By Air. | By Land | By Water. |
|---|---|---|
| Vehicles { Airplanes<br>Airships | On roads { Human power<br>Animal power<br>Motor cars<br>Street railways | Sea shipping<br>Shipping on inland waterways { on rivers<br>on lakes<br>on canals |
| Wireless telegraph<br>Wireless telephone<br>Radio | Railways<br>Telegraphs<br>Telephones | |
| | Railway ferry-boats | |

The post, as a means of communication, forwards at high speeds all kinds of small parcels and letters by air, land and water.

| | | |
|---|---|---|
| Mainly rapid transport of passengers and of valuable goods taking up little space. | Transport of passengers and of all kinds of goods. | Transport of passengers and of all kinds of goods. |

A systematic survey of the various means of communication.

1. The medium on or in which communication takes place. In the present stage reached by the development of engineering these media include land, water and air.

2. Materials from which the means of communication, such as roads, railway tracks, ships, rolling stock and buildings may be constructed and with the aid of which

means of locomotion can be worked, as, for instance, fuel.

3. The capital required for establishing and working means of communication.

4. Other existing conditions influencing the development, density and character of communication, as, for instance, the occupations in which the population is engaged, political and economic conditions, etc., etc.

Accordingly, our researches will in the following pages be directed in the first place to a study of these various factors, with particular regard to the situation existing in the Far East.

In the first place we shall have to study the media on or in which communication takes place, viz., land, water and air, and their respective influence on communications.

In the stage of development engineering has reached at present, communication can take place on land, on water and in the air. From the point of view of the medium on or in which communication takes place, the various means of communication can be grouped as shown in the table on page 5.

Communication itself will always be determined by the character of the medium of communication.

Some natural conditions, however, influence all kinds of communications. One of the most important groups of such conditions is represented by climate. Climate exerts a great influence in all parts of the globe. Frequent intense rainfall, for instance, as encountered in tropical regions, may be a temporary obstacle to river and railway communications, and suitable provision against this danger will often mean a considerable increase of the cost of communication on the territory in question. (Costly maintenance of track, necessity for special kinds of substructure, etc.) Wind plays an important *rôle* in aerial and marine transport: it will, when its direction is favourable, furnish the driving power for sailing ships, whilst, if its direction be adverse, it may be the cause of considerable delay. Equatorial winds blowing in a certain constant direction during a certain part of the year have to be considered as an essential factor in marine communication between the Far East and the other parts of the world. In aerial transport wind often causes great difficulties in the navigation of aeroplanes. Extremes of temperature, particularly intense frost, also exercise a great influence on transport conditions, as during long spells of frost rivers and navigable canals may become frozen over and even seaports may become unusable owing to being blocked by ice. Vladivostok, for instance, the main Russian seaport on the Pacific Ocean, is blocked by ice during a large part of the year.*

In the countries of the Far East the danger of river transport being obstructed by frost is particularly common in Manchuria, the inland water traffic of which country, however, is not very important. The main inland waterways of China (Yangtze-kiang, Hoangho, Great Canal, etc.), on the other hand, are situated in more southern latitudes, where winter frosts do not represent any danger to the considerable junk shipping and to steam navigation, of continually increasing importance, on the Yangtze-kiang.†

Indirectly, climatic conditions of course influence the intensity and direction of transport in many respects. For instance, climate decisively influences the agricultural production of any territory, and this again influences transport not only by determining the kind and quantities of products that have to be transported, but also by determining the periodicity of transport activity, which is noticeable in all territories where intense agricultural production takes place (increased export of products after the harvest, etc.).

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* This is the reason why the ports situated in a more southern latitude than Vladivostok, notably the Port of Dairen (held by the Japanese) and recently the Port of Hulutao constructed by the Chinese, which ports are free from ice, are such successful competitors of Vladivostok.

† The influence of the freezing of waterways on the direction of traffic has manifested itself in a very interesting manner in connection with Canadian wheat traffic Before the new Welland Canal was opened, the transport of the Manitoba and Dakota wheat towards Europe was effected through the territories situated to the north of the present Welland-Erie Canal systems (Hudson Bay Railroad, St. Lawrence River). The purpose of the new Canal is to enable direct shipping to be maintained during the whole year from Chicago through the great lakes to Europe, so that it will be possible to avoid the section of the St. Lawrence River between Quebec and Montreal, as well as the route over the Hudson Bay, the freezing of which routes during the winter has always been their greatest drawback.

Snowstorms, which in many countries occur frequently during the winter, particularly influence land transport, where they may cause increased cost of maintenance (removal of snow). The importance of the delays caused by snowstorms is, as a rule, insignificant.

Land, its structure, configuration and characteristics, are of course of great importance in connection with transport. The major part of transport is over land, and therefore in many cases the configuration of the land will decisively influence the direction and intensity of traffic.

In mountainous and rocky regions transport is more expensive than in level countries. In such regions the construction of roads and of railways is more difficult, and accordingly more expensive. Railway tracks in mountainous regions will necessarily wind instead of connecting two points by a straight line, and partly owing to this and partly owing to the steep gradients of the track, transport will require a greater quantity of fuel and its cost will be increased. In mountainous regions the population settles in the valleys, and thus territories situated between two valleys (mountain ridges) will often remain without any means of transport. The risk of natural accidents (avalanches, rock slides, floods of mountain torrents, obstruction by snow, etc.) will also be relatively higher in mountainous regions than on level land. Another influence on communication of the structure and configuration of the land consists in the fact that, where the soil contains mining products, or where its configuration provides water-power, these factors may be of great influence on the construction and working costs of railways established in that region. The main energies at present utilised for railway traction are the heat energy of fuels (chiefly coal and petrol) and water-power (transmitted by means of electricity). In a region where coal or oil is found the transport of goods will be cheaper than in a region to which coal or oil must be brought from elsewhere. Similarly, in mountainous regions, where there are many mountain torrents and waterfalls, the conditions for the electrification of railways are more favourable than on level land. It is owing to this fact that the largest number of electrified railways are found on mountainous territories, as, for instance, in Switzerland, Austria, in Upper Italy and in Sweden.

The configuration of the land, however, exerts a great influence on transport by air and water also. Mountainous regions do not favour aerial communication. The relative scarcity of flat surfaces of considerable extent renders the ascent and descent of aeroplanes more difficult, and it may easily happen that it is only at a considerable distance from a large city that a suitable landing place can be found, and that in consequence of this one of the most important purposes of aerial communication —the possibility of rapid travel between large centres— cannot be fulfilled. Besides, flying over high mountains means a waste of time and fuel, whilst wind, fog and rain between the mountains makes it difficult for the pilot to ascertain his position at any moment and accordingly lessen the safety of air travel.

The configuration of the land also influences transport by water in many ways. Thus, for instance, regions with high mountains are unsuitable for inland water traffic. The steep gradients and great rapidity of rivers make shipping dangerous. On the other hand, countries with mountains of medium height are usually very fortunate as regards river navigation. Between mountains of medium height rivers do not flow very rapidly; the mountains generally encompass level regions varying in size in which the density of the population is comparatively high and between which the river forms a connection. Long tracts of very flat land again are unfavourable for inland shipping, because there the river is inclined to silt up a great deal of mud and sand and forms great curves and marshes.

For marine shipping steep, rocky shores are generally very unfavourable, on account of the force of the waves. Such shores are often separated from the land behind them by some chain of mountains. On the other hand, rugged shores containing many bays often offer suitable harbours, particularly if the connection between the bay and the mainland behind it is formed by a valley through which a railway line can be laid (as in the case of Vancouver).

Sandy plains and large areas of deserts in general represent serious obstacles to the development of communication. If two territories capable of being agriculturally utilised are separated from each other by a desert (as in the case of the prairie separating the Pacific region of North America from the plains of the Mississippi and Missouri) it is generally useful to establish a railway line or roadway through the desert.

Marshy and boggy regions and primeval forests also may constitute obstacles to the development of communication, but it is possible to eliminate these obstacles by means of fillings and forest clearing, and this will only mean an increase of the expense of construction of the railways or roadways in question.

If all that has been said above in a more general way is applied to the particular case of the countries of the Far East the following main results will be found :

China as well as Japan is a mountainous country. With regard to orological structure, however, these two countries differ from each other in essential points.

In Japan most of the mountains are not in ranges. There are a large number of " island " mountains of independent volcanic cones, and, even where mountain chains of some length are found, as in the northern half of the island of Hondo, these do not constitute very serious obstacles to communication.

This structure of the mountains exert a marked influence on road and railway construction. For example, in long mountain chains the transverse valleys, which are so important from the point of view of communication in the transverse direction, are generally absent, so that if it is desired to establish communication in a direction perpendicular to that of the chain of mountains it is necessary to construct expensive tunnels. (Compare the case of the Alps : Simplon and Gotthard tunnels.)

In Japan, as valleys run in all directions between the " island " mountains and the independent separate peaks, it is not necessary that railway lines and roads should make such great " détours," and traffic in the direction transverse to that of the mountain chains is not hampered.

Great chains of mountains are numerous in the western part of China, and their effect is also noticeable on the course of the rivers. In this part of China, however, communication is not yet so intense as to make it necessary to give any particular consideration to the difficulties caused by the mountains. In the other parts of China mountains do not constitute any serious obstacles to communication at all.

Passing now to the consideration of marine and inland waterways, it is clear that the position of Japan is more favourable from the point of view of marine communication, because its whole eastern shore is open to the ocean. The channels and bays between the many islands and peninsulas are very advantageous from the point of view of coastal shipping, the necessary conditions for which exist in China also.

With regard to inland waterways the difference between the two countries is very important.

Like most island countries, Japan has no rivers of any great length. Owing to the mountainous character of the land the rivers are, moreover, very rapid, and this fact alone is sufficient to render the development of inland shipping very difficult. (See also Chapter VI. of Part II.)

The situation is entirely different in China. This country possesses a system of natural and artificial inland waterways which may be called nearly perfect.

In addition to the large number of navigable rivers, which are important routes of the traffic from east to west and from west to east, there exists in China an artificial waterway running from north to south, the so-called Great Imperial Canal, connecting the two greatest rivers of China, the Hoangho and the Yangtze-kiang. (See in greater detail Chapter VI. of Part II.)

Of the rivers of China, the Hoangho is almost impossible to regulate and need only be considered from the point of view of junk shipping.* The Yangtze-kiang is in its lower course navigable for sea ships also, the economic importance of which fact will be explained later (p. 197).

Before the construction of railways the importance of inland shipping in China was very great, and it continues to be so to-day, when China possesses an organised network of railways, which is being extended more and more according to a well thought-out plan, though, at the same time, the importance of shipping on inland waterways hardly diminishes.

Moreover, the junk shipping on Chinese rivers and canals has created a special kind of tramp and charter shipping on inland waterways.

There exist many great lakes in China, but shipping on them is of local importance only. The same is the case in Japan, where only local tourist and fishing boats sail on the Biwa or on the Chuzendi lakes.

Our survey would be incomplete if we did not mention the various fuels used for the different means of locomotion. If fuel is available in the country, this means cheaper traffic, as the necessity of importing fuel from great distances is avoided. If a certain kind of fuel is available in any country in large quantities, this often also influences the design of the means of locomotion, as the latter will be constructed in a special way so as to enable the fuel in question to be utilised in an economical manner. (As, for instance, locomotives arranged for burning wood in ancient Tzarist Russia and in present-day Finland.)

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* Junks or junkas are Chinese sailing ships made of timber; their size varies between 20 and 200 tons; their number is said to amount to many tens of thousands.

In the present stage of development of engineering, vehicles may be driven by steam engines, oil engines, electric motors, and by devices for utilising wind power. Vehicles driven by wind power are the sailing ships and the Flettner rotor ship. (Whether it will be possible to utilise this last-named type of ship in an economical manner is, however, still uncertain.)

Steam is generally generated by burning coal, which continues to be one of the most important fuels for locomotion purposes, although since the invention of internal combustion engines and the electrification of railways its importance is diminishing. Japan has a comparatively small geological supply of coal, only about 7,570 millions of tons. Of this supply about 31 million tons of coal a year (in 1930) are being mined annually, actual consumption amounting to about the same quantity. China possesses a much greater store of coal (217,266 million tons) of which 19 million tons were mined in 1931, and the same quantity consumed. (The figures are estimated only.) The geological supply of the coalfields of Manchuria is estimated as amounting to 1,500 million tons, of which 8·3 million tons have been mined in 1931.

Wood to-day has no longer any importance as a fuel in any country, and we therefore refrain from giving any figures with regard to the forest-covered territories of the two countries, particularly as no exact Chinese and Japanese statistics are available on this point.

One of the most important fuels is oil, which is already being utilised for the propulsion of all kinds of locomotion. Particularly as a fuel for road transport (motor cars, motor lorries) and for aerial transport, and in more recent times also for ships, oil is being used in increasing quantities.*

The geological supply of oil of Japan amounted in 1922, according to an estimate of the U.S.A. Geological Survey, to 230,059,900 tons.* The production amounts to 25 per cent. of the demand. Only 50 per cent. of the quantity of oil imported comes from the U.S.A., the other 50 per cent. from the Dutch East Indies.

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* In 1914 the number of motor ships (oil- and petrol-driven ships, including sailing ships fitted with an auxiliary engine) amounted to 661. In 1931 their number had already increased to 7,994. Of this figure Japan accounts for 401 motor ships.

Of this supply about 2,030,000 barrels (1 barrel = about 151·4 litres) was produced in 1929. To this should be added the quantity of 1,670,000 barrels produced in the Russian island Sakhalin by the Japanese firms holding a concession for mining oil on this island. These 3,700,000 barrels, however, are far from sufficient to cover the requirements of Japan, and, in fact, the quantities of oil imported by Japan are continually increasing. (In 1925 Japan had to import 350,800 tons; in 1926, 401,000 tons; and in 1927, 553,300 tons of oil and of products of oil distillation.) The future will show whether the oil fields discovered in Manchuria, which owing to recent political events will perhaps become Japanese property, will be sufficient to cover the deficiency.

With regard to the geological oil supply of China no reliable data are available. Extensive oil fields have been opened up in South Manchuria in the province of Sanshi, and in the valley of the upper course of the Yangtze-kiang.

For the purpose of electrification, it is chiefly so-called "white coal," *i.e.*, water power which is utilised. Water-power represents a source of power requiring no expense for fuel, its cost being represented merely by the interest and amortisation of the capital expended for the construction of the necessary turbines, dams, etc., required for transforming water power into electrical energy. Even in cases where this cost is not very high, the cost of the construction of the necessary distributing equipment (transmission lines, etc.) is so high that electrification only pays under certain definite technical and economic conditions.

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* No data can be found in literature with regard to the geological oil supply of the island of Sakhalin. Neither the documents of the negotiations at Chang-Chun in 1922 nor those of the Japanese-Russian negotiations of 1925 contain any reference to this point. (See for other details, K. Hoffmann, "Öl-Politik," Berlin, 1927.) We are indebted for the above data to the Institute of Economic Geology of the University of Budapest, which is under the direction of Professor Dr. Lajos Lóczy, Junior.

Japan, as well as China, is largely a mountainous country, and accordingly both are amply provided with swift flowing rivers. For this and other reasons, conditions for the electrification of the railways seem to be favourable from many points of view, particularly in Japan, where the geological supply of coal is not very ample. This has, in fact, been recognised by the Government railways in Japan. (See p. 79).*

Japan, including Korea, possesses five million h.p. of water power, which represents about 1 per cent. of the total quantity of water power of 496·9 million h.p. available on the globe. Of these five million h.p., 1·8 million h.p. were utilised in 1927. The water power available in China amounts to 20 million h.p. (Four per cent. of the world's total supply.) Up to now Chinese water power is practically not utilised at all.

In addition to fuels and other sources of energy, two other important raw materials, possessing great importance likewise for the construction and working of the means of locomotion, should be mentioned. These two materials are iron, which is the chief material for the construction of railway tracks (rails, bridges, etc.), and of most kinds of rolling stock, and rubber, which is of great importance for motor traffic.

Iron was mined in Japan in 1932 to the extent of about 1,030,000 tons. The great deficiency in mining products existing in Japan also appears from the fact that Japan is compelled to import 95 per cent. of its requirements of lead, 80 per cent. of its requirements of zinc, as well as 55 per cent. of the steel and 45 per cent. of iron she requires.

China is one of the countries richest in iron. Its annual production amounts to 1·5 million tons. The supply of Tayeh iron ore alone is estimated to amount to 35 million tons. In addition to this the geological supply of iron ore of China is estimated to amount to a further 600 million tons. The iron ore fields of Manchuria are estimated as amounting to 100 million tons. Recently Japan has been building ironworks valued at 100 million yen in Manchuria, the producing capacity of which will be extended first to 500,000, and later on to 1 million, tons per annum. As a by-product, 300,000 tons of ammonia sulphate are obtained. In addition hereto, Manchuria contains rich copper mines (at Kirin) as well as lead and iron mines, which would be capable to supply the requirements of Japan also.

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* With regard to the problem of electrification see various numbers of the Electric Railway Journal.

Rubber was used in Japan in 1928 to the extent of 26,000 tons. The main part of this was imported from Farther India.

In what follows we must mention a few other circumstances of economic importance exerting an influence on the character of transport.

The occupation in which the population is engaged influences transport in many respects. Thus a population mainly engaged in agriculture will travel comparatively little, because its occupation ties it down to a certain place. The character and intensity of goods traffic is also different in agrarian countries from what it is in an industrial and trading country. In agrarian countries goods traffic is increased in certain periods, particularly after harvest, when the products harvested have to be transported. In industrial and trading countries the distribution of goods traffic over the various parts of the year is more uniform. Postal traffic is much more intense in countries of the last-named types.

In the Far East, Japan represents the industrial and trading country, whilst the character of China is more that of an agricultural country, although on the seashore and in the valley of the Yangtze-kiang commercial activity is very intense.

In what follows we must also mention towns as a factor affecting the transport conditions of a country. A district may be considered a town where the density of the population is substantially higher than in the other parts of the country. Various considerations have been instrumental in concentrating people in such centres, attracting them to settle there. A geographical position favourable from a commercial, industrial or agricultural point of view (for instance, proximity to a caravan route), as well as other circumstances, may be responsible for the growth of towns. In what follows we only want to study the effects towns exert on the direction and intensity of transport. In view of the fact that a town represents a more densely populated area, the intensity of passenger and goods traffic directed to or from it will be greater. Passenger traffic will be greater owing to the greater density of population, whilst goods traffic will be more intense partly for the same reason (a greater consuming public), partly because the towns are the places of industrial production (covering the requirements of provincial districts as well), and partly because they are centres of the collection and of the distribution of goods. In 1800 only 4·4 per cent. of the population of Europe lived in towns, whilst in 1920 the proportion of town-dwellers already reached 11·9 per cent. In America these figures were 2·6 per cent. and 14·6 per cent. respectively. In Asia town-dwellers represented, in 1850, 1·7 per cent. of the total population, whilst at present their proportion is 2·2 per cent. In the two Far Eastern countries this proportion is considerably higher.*

The well-known law of Sax also mentions this tendency of towns to develop, but does not take into account the fact that the importance of towns as well as of regions constantly varies. For instance, the importance of Rome is now considerably less than in ancient times, and that of Venice less than in mediæval times. The towns exert a very great influence on transport, mainly for the following reasons:—

1. The comparatively small size of the town as compared to the number of the population. This will make

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* Count Paul Teleki's article in the "Hungarian Encyclopædia of Political Economy," Volume IV., Columns 1351–1378. The figures are given in Columns 1351–1378.

communication within the town more intense and will exert an attractive force towards districts outside the town.

2. The law of Sax says that the direction of communication will always tend as far as possible to approximate the straight line between the two centres to be connected. This is, however, in most cases altered by the attraction exerted by intermediate towns, because a communication line between two points, for instance, a railway, must for economic reasons endeavour to touch the large towns situated between the two terminal points, even though it should be necessary for this purpose to deviate more or less from the ideal straight line. Of course the extra cost arising owing to the deviation from the straight line must be in proportion with the profit to be expected from incorporating into the traffic system the new towns or regions for the sake of which the deviation has been effected. This part of the Sax law will therefore have to be modified in so far that the road to be established between two points will only follow the ideal straight line as long as considerations of profit will not supply a reason for deviating from it.* (Compare also the lectures of Professor Charles de Neumann of the Budapest University on the Sax law.)

The capital accumulated in towns exerts a stimulating influence on transport.

Owing to the relatively higher degree of culture and greater diversity of occupation of town-dwellers, postal traffic will also be more intense in towns and between one large town and another.

The larger towns of a country are generally situated at a considerable distance from one another, each town forming the centre of a region. In most cases the individual towns are also the commercial and, to a certain extent, the industrial and the intellectual centres of the district to which their attraction extends.

It also happens, particularly in countries with highly developed industry and commerce, that certain towns are situated at no great distance from each other, and in such cases such neighbouring towns often vary with regard to the occupation of their population, and consequently the character of the towns is different.*

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* Natural impediments (mountains, rivers, etc.) also cause routes to deviate from the straight line.

Whilst one town is the centre of capital (banks) and industry, commercial activity may preponderate in the adjacent town. Thus such a pair of towns, or, if there are more than two, such a group of towns may from the point of view of communications be considered as a single unit, and therefore the economic position of such towns should also be judged conjointly, seeing that they are interdependent. It frequently happens that, for various reasons, in the course of time such towns finally unite (Buda and Pest, Elberfeld and Barmen, Hamburg-Altona, New York and Brooklyn, etc.). Such twin towns often become economic centres of gravity of the country in question, and communication radiates from them to the more remote parts of the country, and from these parts to them.†

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* This differentiation of towns is particularly noticeable in the U.S.A., where the towns often become specialised according to trades. For instance, Hollywood is the centre of cinematographic film production, Pittsburg the centre of the iron and steel industry, etc.

† It will perhaps be of interest to put down here some data of a few town groups of this kind in the various parts of the globe.

| Town. | Character. | Population. | Mutual distance |
|---|---|---|---|
| Tokyo | C, I, sCo, R, sP, Int, P | 2,100,000 | About 20 km. |
| Yokohama | C, I, Co, P. | 650,000 | |
| Osaka | I, C, Co, P, R. | 2,500,000 | About 30 km. |
| Kobe | P, C, I. | 800,000 | |
| Liverpool | Co, I, P, C. | 870,000 | About 46 km. |
| Manchester | I, C, R, Co. | 750,000 | |
| New York | I, C, Int, Co, R, P, Rivship | 5,990,000 | About 1–2 km |
| Brooklyn | P, Co, I. | 1,640,000 | |
| Düsseldorf | I, Rivship, Co. | 480,000 | |
| Essen | I. | 650,000 | |
| Creefeld | I. | 170,000 | |

Meaning of symbols : C = Capital and money market. I = Industry. sCo = Relatively small commerce. Co = Commercial ton. R = Railway centre. sP = port of small importance. Int = Intellectual centre. P = Port. Rivship = River shipping. P = Political centre.

In Japan two town groups of this kind exist.

The first is the Tokyo-Yokohama group, the other the Osaka-Kobe group ; to the latter the town of Kyoto also belongs, though the bonds connecting it to these two towns are not so close as those between Osaka and Kobe. Besides, Kyoto is, from the point of view of economic life, of minor importance, and has rather to be considered as an intellectual centre only.

The whole economic life of Japan bears the stamp of the struggle for supremacy of the Tokyo-Yokohama group and of the Osaka-Kobe group. It is therefore important to enquire more closely into this question.

As regards the geographical position of the two groups we find a number of traits which both have in common. The first and most important of these traits is the fact that both members of both groups are sea ports. The attraction of the two groups is, however, exerted in different directions. The Tokyo-Yokohama group is more important in the America-Japan relation, whilst the Osaka-Kobe group is more important in the relation between Europe and Japan and Japan and Australia. As, however, the distance between the two groups is not very great (471 kilometres) the attraction exerted by each group extends to the other's sphere of interest as well, and it is to this circumstance that the strong competition between the two groups of towns is due, as a result of which there arises the situation that the starting port of nearly each ship sailing to Europe is not Kobe but Yokohama, and, inversely, ships going to North America often start from Kobe. The competition of the two groups of towns is rendered more acute by the fact that their connection by means of railways and roads is excellent. Connection is effected between them, among others, by the most important railway line of Japan, the Tokaido line, which railway may be considered as the Japanese continuation of the Trans-Siberian Railway. (See p. 65.) Thus many combinations are possible for the traffic between the two pairs of towns and for long-distance traffic through these towns, resulting in a great intricacy of transport tariffs.

Owing to the circumstances described, the straight line connecting the two pairs of towns mentioned may be considered to represent the axis of the transport system of Japan.

Tokyo is ideally supplemented by Yokohama and likewise Osaka by Kobe. In the two groups Tokyo corresponds to Osaka and Yokohama to Kobe.

Both Tokyo and Osaka are large banking centres, for which reason both towns are important money markets.* Tokyo as well as Osaka is also a large industrial centre and an important railway junction.

In China there are no such pairs of towns.† The Chinese towns may rather be said to be independent centres of large regions. Thus Hankow and Shanghai may be considered transhipping points: on the one hand, between marine shipping and shipping on the Yangtze-kiang, and, on the other hand, between both these kinds of shipping and land transport. Peking, Nanking and Tsangtshun are railway centres. The position of Hongkong as a British colony is a special one, and it must be considered an important centre of shipping.

Like the towns, certain districts also form centres of communication. Such centres exist in a world relation as well as in a local relation. For instance, passenger and goods traffic between North America and Europe now mainly takes place between New York and the Channel ports.

Or, to mention a case of centres in a local relation, a considerable proportion of the inland goods traffic of Germany is directed to and from the Westphalian industrial region. Depending on the development of the economic life of the world, the territories playing such a special *rôle* constantly vary. Whilst in the Middle Ages the greater number of shipping lines between Europe and America ran between Spain and Central America, to-day this route occupies a very subordinate position. Recently the opening of the Suez Canal has considerably increased the importance of the Mediterranean ports, whilst in the first half of the last century their turnover was hardly important, the importance they possessed in older times, in ancient times as well as in the Middle Ages, having completely dwindled.

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* In Osaka the number of banks was, in 1928, 260. Their deposits amounted at the end of the year to 1,682 million yen. In Tokyo 479 banks have been operating with a paid up capital of 578 million yen. The Osaka banks have, in 1928, from a turn-over of deposits of 26,600 million yen, granted loans to the extent of 22,500 million yen.

† A very interesting treatise on Chinese towns has been recently published by Schmitthener.

Applying the above general considerations to our subject, it will be seen that in the Far East we find to-day three districts in which the intensity of communication is greater than in other districts. If a triangle be drawn connecting these three districts, the sides of this triangle will represent the lines along which to-day a very great part of the goods and passenger traffic of the Far Eastern countries flows.

These three districts are the following:

1. The district between the two town groups of Japan. (See p. 20.)
2. The valley of the Yangtze-kiang, from Shanghai to Hankow, including that part of the Chinese plain which is situated to the north of the Yangtze-kiang. (This area accounts for 46 per cent. of the economic life of China.)
3. Manchuria.

Among the routes connecting the Far East with the other parts of the world we also find three routes possessing a greater importance than the others. These are the following:

1. The so-called Suez route, *i.e.*, the shipping route from Europe to the Far East.
2. The Trans-Siberian route, which is the most dangerous rival of the former, and represents the land connection between Europe and China and Japan. Owing to present political conditions, however, its importance remains behind that of the former one.
3. The route from the Far East to North America.

Finally, we must also refer to the conditions existing in the two countries with regard to capital. Even in those countries where certain means of communication (railway, post office) are managed by the State, private capital has a great importance, particularly with regard to shipping and to motor traffic. In Japan a great part of the railways is under State management, whilst in China very important railways are owned by private companies.

Owing to their great source of profit and relatively high safety, transport undertakings have always been a favourite field of investment for private as well as for international capital. Thus in the Far East, particularly in China, considerable amounts of capital have been invested in means of communication, which fact has greatly contributed to the indebtedness of China.

The indebtedness of China towards foreign nations is, in fact, characteristic of the whole economic life in China, very important amounts having to be set down under the heading of expenses in the Chinese budget for the payment of the annuities (interest and amortisation) of the corresponding loans. (In 1928 these items accounted for about 150 million dollars out of a total budget of 457 million dollars, whilst in 1930–31 they accounted for 160 million dollars out of a total budget of 640 million dollars.) Thus there does not remain to the Chinese Government any great surplus for investment in communication equipment, and that is why the communication equipment is so insufficient, particularly in so far as the construction of roads and ports and the maintenance of railways are concerned. According to the figure given in the " Statesman's Year-book " for 1932, the debts of China amounted on January 1st, 1931, to 152,900,000 gold pounds sterling. Inland debts amounted to 741,640,700 Mexican dollars, of which 550,082,000 represent the internal loans raised by the Nanking Government, whilst for the remaining part the Peking Government is responsible.

The foreign debts of China are shown in detail on the table published on the next page.

In 1920 the arrears of annuities of China were esti-

## THE DEBTS OF CHINA FROM 1895 TO 1920

| Name of loan. | Creditor country. | Amount lent. | Balances outstanding. | Date when loan originated. | Date at which loan has to be repaid. |
|---|---|---|---|---|---|
| French and Russian. | France.<br>Russia. | Fr. 400,000,000 | Fr. 198,538,904 | 1895 | 1931 |
| British and German. | Gt. Britain.<br>Germany. | £16,000,000 | £8,655,797 | 1896 | 1932 |
| British and German, Second. | Gt. Britain.<br>Germany. | £16,000,000 | £11,848,199 | 1898 | 1943 |
| Arnhold . . | Austria. | £1,050,000 | £620,000 | 1912 | 1916 |
| New Austrian . | Austria. | £1,233,000 | £1,233,000 | 1915 | 1920 |
| Austrian . . | Austria. | £3,700,000 | £2,467,000 | 1913 | 1917 |
| Crisp . . | Gt. Britain. | £5,000,000 | £5,000,000 | 1912 | 1952 |
| Reconstruction | A consortium of five countries. | £25,000,000 | £25,000,000 | 1913 | 1960 |
| Anglo-Chinese Co | Gt. Britain. | £375,000 | £375,000 | 1914 | 1934 |
| Industrial loan . | France. | Fr. 100,000,000 | Fr. 100,000,000 | 1914 | 1964 |
| Chin-Yu . . | France. | Fr. 100,000,000 | Fr. 10,416,666 | 1914 | 1921 |
| Koah . . | Japan. | Yen 5,000,000 | Yen 4,500,000 | 1916 | 1919 |
| Chicago Banks . | U.S.A. | $5,500,000 | $5,500,000 | 1916 | 1921 |
| Japanese Banks . | Japan. | Yen 30,000,000 | Yen 8,300,000 | 1917 | 1920 |
| Telegraph loan . | Japan. | Yen 20,000,000 | Yen 15,000,000 | 1918 | 1923 |
| Ki-Huy Railway loan . . | Japan. | Yen 10,000,000 | Yen 10,000,000 | 1918 | — |
| Mining and Forestry loan . | Japan. | Yen 30,000,000 | Yen 30,000,000 | 1918 | — |
| Japanese . . | Japan. | Yen 20,000,000 | Yen 20,000,000 | 1918 | 1928 |
| Tsishun-Kaoshui Railway loan . | Japan. | Yen 20,000,000 | Yen 20,000,000 | — | — |
| Manchurian-Mongolian Railway loan . | Japan. | Yen 20,000,000 | Yen 20,000,000 | — | — |
| Pacific Ocean Development Co. | U.S.A. | $5,500,000 | $5,500,000 | 1918 | 1921 |
| Boxer rising compensation . | Gt. Britain. | £16,573,810 | £11,186,547 | 1901 | 1945 |
| ” ” | U.S.A. | $53,348,145 | $12,455,507 | 1901 | 1945 |
| ” ” | France. | Fr 580,160,035 | Fr. 391,581,529 | 1901 | 1945 |
| ” ” | Italy. | Fr. 217,868,647 | Fr. 147,051,159 | 1901 | 1945 |
| ” ” | Russia. | £42,685,163 | £30,759,683 | 1901 | 1945 |
| ” ” | Japan. | £11,381,703 | £7,531,985 | 1901 | 1945 |
| ” ” | Belgium. | Fr. 69,447,061 | Fr. 46,873,522 | 1901 | 1945 |
| ” ” | Portugal. | £30,203 | £20,387 | 1901 | 1945 |
| ” ” | Spain. | Fr. 1,107,596 | Fr. 690,068 | 1901 | 1945 |
| ” ” | Holland. | Fr. 3,066,005 | Fr. 1,910,191 | 1901 | 1945 |
| ” ” | Sweden and Norway. | £20,568 | £12,815 | 1901 | 1945 |
| ” ” | Germany. | | | | |
| ” ” | Austro-Hungarian Monarchy. | Cancelled by Peace Treaties (see Peace Treaties of of Neuilly, St. Germain and Trianon). | | | |

mated at 657,627,000 dollars.* Of this amount about 40 million pounds sterling represent loans supplied by Foreign Powers up to 1918 for railway construction purposes. During the years 1912–18 China borrowed in foreign money markets an amount exceeding 1,058 million dollars.†

In Japan the situation is different. Up to the last years the formation of new capital was very active in this country, and it is only during the last months, since the beginning of 1932, that, as a result of war events, the amount of the deposits in the banks has diminished. Recently, among the countries who are lending money to China, Japan also begins to figure. It may be noted here that the foreign indebtedness of Japan amounted in 1929 to 1,447 million yen, and at the beginning of 1932 to 1,470 million yen. (" Statesman's Year-book," 1933.)

These debts, however, are in great part of recent origin, and had to be contracted by Japan after the earthquake of 1923 in the form of reconstruction loans. A great part of the Japanese loans was supplied by the U.S.A., at interest varying between 4 and 6·5 per cent. In view of the prosperity of Japanese undertakings, and of the healthy state of economic and political life, the foreign indebtedness of Japan should not be measured by the same standards as that of China.

The more important American loans placed in Japan since 1900 are given in the table on page 26.

From the point of view of the U.S.A., the reconstruction loans represented very advantageous investments, particularly also because a large part of the materials, machinery, etc., required for the reconstruction was purchased by the Japanese Government and Municipalities in the U.S.A.

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* Since that time this figure has become increased owing to the depreciation of the Mexican silver dollar. After 1920 the figures are not reliable, because it has not been cleared up how many and which of the loans are recognised by the various Chinese governments which have come into power since then in the various parts of China.

† In Shanghai alone Great Britain is interested to the extent of 560 million taels, Japan to the extent of 550 million taels, U.S.A. to the extent of 163 million taels. See the Japan *Times*, Overseas Edition, issue of February 22nd, 1932.

In its issue of March 28th, 1932, the Japan *Times* published a schedule of the value of the financial investments of the U.S.A. in Japan. According to this schedule the U.S.A. was interested in Japan to the extent of a total amount of 433,539,000 yen. (This amount represents about 0·45 per cent. of the Japanese national wealth in 1924, as ascertained by K. Mori.)

| Name of loan. | Year of loan. | Amount lent, U.S.A. dollars. | Rate of interest. |
|---|---|---|---|
| Japanese State Loan | 1905 | 15,800,000 | 4 per cent. |
| City of Tokyo . | 1912 | 10,000,000 | 5 per cent. |
| City of Yokohama . | 1924 | 20,000,000 | 6 per cent. Reconstruction Loan. |
| Japanese Oriental Development Co. | 1923 | 42,000,000 | ” ” ” |
| Municipal Electric Power Station of Tokyo . . | 1923 | 3,000,000 | |
| Loan of Japanese Electric Power Stations . | 1923 | 196,000,000 | |

These investments were distributed as follows :

1. Investments of a commercial nature : 61,450,000 yen.
2. In Japanese State Bonds : 161,935,000 yen.
3. In semi-public undertakings : 35,409,000 yen.
4. In private undertakings : 142,715,000 yen.
5. Religious, scientific, etc., funds : 8,000,000 yen.

In addition to the important *rôle* played by foreign capital, the accumulation of home-owned capital has also been considerable in Japan during the last years, but has suffered a severe set-back under the influence of the events of the last months. The depreciation of the yen has led to a marked diminution of savings' deposits. (See also p. 27.) According to data supplied by the

Tokyo Clearing House (see issue of March 28th, 1932, of the Japan *Times*), deposits in all Japanese banking institutions at the end of February, 1932, totalled 5,468,749,000 yen. This figure includes deposits on current accounts as well as savings bank deposits. When it is remembered that in February, 1931, deposits amounted to 5,837,021,000 yen, the above figure indicates a marked diminution of deposits.

Nevertheless, bank deposits exceeding 5,000 million yen represent all the same a very considerable amount, corresponding to 4·2 per cent. of the national wealth of Japan in 1924.

It should also be mentioned that during the period from 1914 to 1928 England lent to Japan an amount of about 42 million dollars.

As has been mentioned, there is a considerable difference between Japan and China with regard to the origin of the capital employed. Whilst in Japan the internal formation of new capital has been very considerable during the last decades (bank deposits amounted, in the beginning of February, 1932, to 2,000 million yen *: see the Japan *Times*, Overseas Edition, of February 22nd, 1932), and the interest acquired by Japanese capital in the financing of Japanese transport undertakings is continually increasing, in China foreign capital still continues to play a dominating *rôle* in the financing of transport. The reasons for this are mainly political. The causes of this state of things are discussed in greater detail on p. 351: here we only want to point out that to-day Japanese transport undertakings are financed in Japan mainly by Japanese capital, whilst in China, where the internal formation of new capital is very slight and, in fact, during a period of several decades, when home as well as foreign politics in China have been in a disturbed state, has not been possible at all (it is a well-known fact that rich Chinese people are placing their capital abroad), transport undertakings (mainly railways) were chiefly founded by means of British, American, German, and in recent times by means of Japanese and French capital. (See in greater detail on p. 114.)

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* This figure, evidently, does not include savings bank deposits, with the inclusion of which the total amount of deposits reaches 5,500 million yen.

In those countries where there is a State railway system, the State also, in addition to private capitalists, invests a considerable amount of capital in its railways, and Japan particularly outdoes many European countries in this respect. Up to 1943 Japan desires to reconstruct the whole Japanese track system, so as to make it standard gauge, at a cost exceeding 1,400 million yen.

Already up to now the amount invested in the Japanese State Railways is very considerable. In 1928–29 it exceeded 3,109 million gold yen, and thus one mile represents, on the average, an investment of 370,000 yen.

The assessment of the value of the means of transport in the hands of private companies is more difficult, partly because private companies, from considerations of business reticence, often do not publish exact data, and also because experience teaches that private enterprises, being more exposed to the danger of business life, more easily suffer changes in their financial status.

For some considerable time official statements have been made in Japan with regard to the value of transport equipment, with the object of determining the figure at which these items may be assessed in the inventory of national wealth.

In China a systematic assessment of this kind has not yet been made, and thus only a certain amount of approximate information can be obtained from the figures supplied by the Government and by certain private companies: these figures are, however, not quite reliable.

According to K. Mori (K. Mori: "The Estimate of the National Wealth and Income of Japan Proper," Tokyo, 1930), that part of the national wealth of Japan which is invested in transport equipment has, during the last years, developed in the way shown in table on page 29.

If the figures thus obtained are compared with the total figure of national wealth for the year in question, an interesting picture is obtained of the development of means of transport in Japan. In 1924 the total national wealth was 102,341,600,000 yen, of which 9,825,710,000 yen represented transport equipment which corresponds to 9·6 per cent. In 1917 the proportion was 15 per cent. (the total national wealth in that year amounted to 45,696,290,000 yen), whilst in 1905 of a total national wealth of 22,589,680,000 yen 11·5 per cent. represented transport undertakings.

The apparent decline since 1917 of the proportion of the value of transport equipment as compared with the total national wealth is, however, misleading, because it is due in the first place to the increased value of the other elements of the national wealth, particularly to the increase in the value of the land, which increase naturally exists in Japan in the same way as in all those countries where there is a rapid increase of the numbers of the population. (The value of Japanese land in 1905 was 8,397,470 yen; in 1917, 13,862,290,000 yen; and in 1924 already 33,247,340,000 yen.)

| | 1924 1,000 yen | 1919 1,000 yen | 1917 1,000 yen | 1913 1,000 yen | 1910 1,000 yen | 1905 1,000 yen |
|---|---|---|---|---|---|---|
| Railways and local railways . . | 3,544,210 | 1,110,700 | 2,091,670 | 299,340 | 970,290 | 686,900 |
| Shipping . . | 320,490 | 1,181,690 | 1,051,420 | 471,270 | 156,870 | 142,780 |
| Other means of transport . . | 428,590 | 181,900 | 56,460 | 47,230 | 14,610 | 10,980 |
| Bridges . . | 373,820 | 233,920 | 221,840 | 94,830 | 56,830 | 51,250 |
| Port and river regulation works . | 5,158,600 | 4,596,980 | 3,082,660 | — | — | 1,065,480 |
| Total . | 9,825,710 | 7,305,090 | 6,504,050 | — | — | 1,957,390 |

In 1930 the value of transport equipment in Japan amounted to about 6,399,656,988 gold yen. This figure is obtained by summing up the data published on pp. 95, 157, 226 and 235.

This means 108·62 yen per head of the population, as compared to 16·58 yen in 1905, 61·06 yen in 1917, and 70·65 yen in 1924. It appears, therefore, that the *per* *capita* value of transport equipment has considerably increased, particularly in the first decade of the present century, which years were the golden age of the economic development of Japan. When figuring out the value of transport equipment, the value of port equipments, which was incorporated by K. Mori in his schedules, has been left out of account. It is partly this fact, and partly the diminution, caused by the economic depression, of the value of Japanese ships, which results in the apparent diminution as between the 1924 and the present figure. If the figure of 5,158,600,000 yen, at which port equipment has been assessed by K. Mori in 1924, is added to the figure of 6,488,526,812 yen, a figure of 11,647,126,812 yen is obtained, representing a very considerable increase.

With regard to the value of the transport equipment of China, not even approximate data are available. The data supplied by the railway companies which serve different political interests are entirely unreliable; with regard to the junks playing a very important *rôle* in inland navigation, not even their exact number is known; similarly the value of a great part of the roads is also unknown.

Finally, it is necessary to mention the very low rate of wages ruling in the Far East. The effect of this low rate of wages is noticeable in the whole economic life, as it enables goods to be produced at cheaper prices. In the summer of 1918 M. E. Farr published very interesting schedules concerning the wages received by shipbuilding operatives in the three most important shipping countries. According to these schedules the daily wages were as follows:

| Class of workmen. | In U.S.A. | In Great Britain. | In Japan. |
|---|---|---|---|
| Skilled . | £1 4 2 | £0 9 0–£0 11 0 | £0 3 0–£0 4 0 |
| Semi-skilled | £0 18 4 | £0 8 0 | £0 2 0–£0 3 0 |
| Unskilled . | £0 18 0 | £0 7 6 | £0 2 6 |

These differences in the rate of wages make an enormous difference in the cost of building a ship. Since then unemployment in Europe and in the U.S.A. has greatly diminished the rates of wages in these parts of the world also, whilst, on the other hand, wages in Japan have risen, but even to-day Japanese, and especially Chinese, labour is much cheaper than European labour, chiefly owing to the low standard of life of Japanese and Chinese workmen.

The low rate of wages ruling in Japan has had a favourable influence on shipbuilding and road construction in that country as well as on the working cost of various means of locomotion. (See in detail R. Henning, " Der neue Weltverkehr," published by K. Sigismund, Berlin, 1920, p. 26.)

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# CHAPTER II

## THE PRESENT STATE OF GOODS AND PASSENGER TRAFFIC BETWEEN THE FAR EAST AND THE OTHER PARTS OF THE WORLD

IT is in comparatively recent times only that the countries of the Far East have become members of the organised economic life of the world. For many centuries China, as well as Japan, was, so to speak, hermetically sealed from the rest of the world, and it is only in the second half of the last century that commerce of any intensity with these countries was started.

The mutual exchange of the goods produced by human activity is a fundamental requirement of economic life. Goods and passenger traffic between different districts takes place with the aid of means of communication. Traffic between any one district and other districts will become more intense in proportion to the economic importance of that district and to the intensity of goods and passenger traffic in the country in question.

In the present chapter we desire, in addition to publishing the data of the foreign commerce of the Far Eastern countries, to call attention to a number of circumstances which, particularly during the last years and at present, have been and are influencing goods and passenger traffic between the Far East and the other parts of the world, determining the main routes of goods and passenger traffic, and which are therefore of great importance with regard to certain questions of communication policy. (Employment of tonnage, transport tariffs, effect of free trade on the volume of trade, etc.)

The civilised region of Eastern Asia to which China and Japan both belong occupies an area of 6·5 million square kilometres. The whole of this territory belongs either to the temperate or, in its southern parts, to the subtropical climatic zone, and is therefore throughout its whole extent suitable for agricultural development. The density of the population is relatively high; the population numbers more than 500 million souls, making the density of the population about 70·8 inhabitants per square kilometre. The effects of this high density of population on agriculture consist in the breaking up of landed property into small holdings, the development of a more intense method of agriculture and the production of agricultural products of relatively high value.*

The ratio between the population and the land available, whether for the purpose of residence or of agriculture, has led to increasing emigration, which fact increases passenger traffic. (See p. 52.) The geographical situation and conditions of Japan (its character as an island country, the eastern shores of which open to the ocean) have made the Japanese people one of the first sailor-nations of the world. Accordingly, the economic life of Japan is dependent on marine commerce in a much greater degree than that of China. (See also p. 139).

An investigation into the economic relations of any territory with the other parts of the world can only be accomplished by finding out what this territory can offer to the others and what they can offer to it, or, in other words, in how far the consuming market of the territory in question and those of the other territories of the world are able to take over each other's products.

In enquiring into these relations, an investigation of values is preferable to that of tonnage, because, on the one hand, it is the value of imports and exports which figure in the balance of payments of the country in question and influence the economic condition of that country, and because obviously tonnage alone will not give a clear idea of the importance of exports or imports, since the same tonnage, when consisting of semi-manufactured or manufactured products, containing additional values representing work done, as in the case of machinery, chemicals, textile goods, etc., may represent a much higher value than would be represented if it consisted of raw materials requiring a great deal of space but having a relatively low value (like wheat, rice, coal, iron, etc.).

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* It is a fact that in China there are no agricultural holdings exceeding 25 acres.

The following tables contain statements with regard to the volume of the foreign commerce of Japan with the more important countries : *

### Imports in Gold Yen

| | 1890. | 1906. | 1928. | 1931. |
|---|---|---|---|---|
| U.S.A. . . | 6,900,000 | 69,950,000 | 625,500,000 | 342,289,000 |
| Canada . . | — | 1,000,000 | 66,500,000 | 35,672,000 |
| Great Britain . | 26,600,000 | 101,300,000 | 164,850,000 | 63,335,000 |
| France . . | 3,870,000 | 5,000,000 | 24,000,000 | 12,400,000 |
| Germany . . | 6,856,000 | 42,500,000 | 133,500,000 | 73,000,000 |
| China . . | 8,850,000 | 57,400,000 | 234,550,000 | 145,697,000 |
| Italy . . | 129,000 | 636,000 | 9,330,000 | 4,275,000 |
| Australia . . | 334,000 | 4,218,000 | 130,500,000 | 113,337,000 |
| British India . | — | 60,315,000 | 285,500,000 | 133,165,000 |

### Exports in Gold Yen

| | 1890. | 1906. | 1928. | 1931. |
|---|---|---|---|---|
| U.S.A. . . | 20,844,000 | 125,950,000 | 826,000,000 | 425,330,000 |
| Canada . . | — | 3,950,000 | 27,000,000 | 13,067,000 |
| Great Britain . | 5,600,000 | 22,550,000 | 58,900,000 | 51,831,000 |
| France . . | 8,354,000 | 40,300,000 | 63,400,000 | 15,775,000 |
| Germany . . | 846,000 | 8,400,000 | 12,580,000 | 8,102,000 |
| China . . | 5,227,000 | 117,780,000 | 373,140,000 | 115,750,000 |
| Italy . . | 215,000 | 13,770,000 | 6,190,000 | 3,204,000 |
| Australia . . | 795,000 | 4,225,000 | 43,000,000 | 18,405,000 |
| British India . | — | 10,350,000 | 146,000,000 | 110,367,000 |

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* The economic depression of 1930–31 is clearly reflected in the diminution, amounting on an average to 50 per cent. of the 1931 turnover, as compared to that of 1928. In our present investigations we are considering the economic depression as temporary and are not attributing to it any importance in our calculations for the future. The present reduction of the figures of commerce extends to the foreign commerce of all nations and is, therefore, not specially characteristic for the Far Eastern countries.

Very interesting conclusions can be drawn from the figures contained in these tables. The first thing which is apparent from them is that during the last forty years the importance of European countries in commerce with Japan has declined, whilst their place has been taken by the U.S.A., China and Australia. What is particularly deplorable, from the point of view of European countries, is that their exports to Japan have not increased to anything like the same degree as those of America or Australia. The foreign commerce (import plus export) of Great Britain with Japan from 1890 to 1928 multiplied to 6·6 times its original value, whilst in the case of the U.S.A. the multiplication was 52-fold and in the case of Australia 160-fold. In seeming contradiction to this it appears from the above table that from 1928 to 1931 exports from Japan to Great Britain have not declined to nearly such an extent as exports from Japan to the U.S.A. There is, however, a special reason for this, since during 1931 exporters of all nations shipped a large number of goods to Great Britain in order to build up stocks there, seeing that up to March 1st, 1932, when the British protective tariff came into force, it was still possible to import goods into Great Britain without paying duty.

The conclusion which can be drawn from this figure is that the intensity of communication between the Far East and America and Australia increases more rapidly than that between the Far East and Europe. This confirms our opinion expressed in the first chapter of Part III, where we try to prove that the importance of the Pacific Ocean as compared to the other oceans of the world is increasing.

The foreign commerce of China with the various countries has been increasing in a measure similar to that noticeable in Japan. It was particularly during the second half of the last century and during the World War, when the gradually developing European and American industry required more and more raw materials, that commerce with China increased.

On the other hand, China is also developing more and more as a consuming country, and the economic development of China offers a wide market for the products of industrial countries. (Railway construction, electrification of railways, construction of ports, equipment of factories in China, etc., etc.). We have already repeatedly mentioned the economic struggle now going on between Japanese, American, British and German industry (the importance on the last named is diminishing since the War), with the object of acquiring or retaining the Chinese market. During the last decades this struggle has resulted in very important modifications with regard to the direction of the foreign commerce of China and to the quantity and value of goods shipped over certain routes of the world.

The foreign commerce of China with the more important countries is shown in the following tables :

IMPORTS IN HAIKWAN TAELS

| | 1891. | 1907. | 1928 | 1931 |
|---|---|---|---|---|
| U.S.A. | 7,731,000 | 36,903,000 | 205,541,000 | 321,000,000 |
| Japan | 5,704,000 | 57,461,000 | 319,293,000 | 296,800,000 |
| Great Britain | 29,628,000 | 77,562,000 | 113,756,000 | 123,953,000 |
| Germany | — | 16,177,000 | 55,697,000 | 86,940,000 |
| France | — | 3,158,000 | 21,569,000 | 22,550,000 |

EXPORTS IN HAIKWAN TAELS

| | 1891. | 1907 | 1928. | 1931. |
|---|---|---|---|---|
| U.S.A. | 16,765,000 | 26,597,000 | 127,204,000 | 123,400,000 |
| Japan | 11,506,000 | 39,347,000 | 228,600,000 | 239,000,000 |
| Great Britain | 13,772,000 | 12,107,000 | 61,063,000 | 64,000,000 |
| Germany | — | 6,109,000 | 22,824,000 | 25,850,000 |
| France | — | 30,658,000 | 72,040,000 | 34,068,000 |

Here also we notice a striking increase of commerce with the U.S.A. and with Japan, whilst the increase of foreign commerce with European countries has not progressed at nearly such a rapid rate.

It may, therefore, be stated that the more substantial part of the foreign commerce of China is directed towards the east, *i.e.*, over the Trans-Pacific route, whilst the curve of traffic in the western relation over the Suez route does not increase in anything like the same degree.

The following table again summarises the data of the foreign commerce of Japan with China :

| Year. | Imports from China into Japan in gold yen | Exports from Japan into China in gold yen. |
|---|---|---|
| 1890 . . . | 8,850,000 | 5,227,000 |
| 1906 . . . | 57,400,000 | 117,780,000 |
| 1928 . . . | 234,550,000 | 373,150,000 |
| 1931 . . . | 145,697,000* | 155,750,000* |

It can be seen from this table that Japanese exports into China have increased in a greater measure than Japanese imports from China. The reason for this is to be found in the rapid conquest of the Chinese market by Japanese industry, a point which will be discussed in greater detail below.

In all future investigations of the commerce between China and Japan, the independent state of Manchuria, established under Japanese influence in the spring of 1932, will have to be considered separately. Up to now commerce between Japan and this territory has been included in the commerce with China, whilst in the future it will be registered under a separate heading.

In what follows we wish to point out certain circumstances which influence the lines along which commerce between the Far East and the other parts of the world is developing, which circumstances determine the intensity of such commerce and therefore also exert a very great indirect influence on commerce between China and Japan.

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* The figures of the year 1931 show a marked falling-off as compared to those for 1928. The reason for this is not only the general economic depression, but the boycott of Japanese goods in China, which can be stopped temporarily only.

The first point to be considered in this connection is the increasing ascendancy of American industry in the Far Eastern market, achieved often to the detriment of European industry.

Already before the War the exports of the U.S.A. into the Far Eastern countries were very considerable.* Nevertheless the products of European industry, the quality of which was better owing to the longer experience of European factories, still competed successfully against American industry, which chiefly supplied goods producible by means of mass production. Particularly the heavy iron industry and chemical industry of Germany (various kinds of machinery, electrical equipment, pharmaceutical goods, etc.) made great conquests in the Japanese and Chinese markets.†

All this was changed owing to the effects of the War. German, Austrian and Hungarian industry completely vanished from the Far East; the industry of the Allied Powers was fully engaged on supplying the requirements of their own armies, so that European industry nearly lost

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* Commerce between the U.S.A. and China and Japan was as follows :—

| Year. | Japan. | | China. | |
|---|---|---|---|---|
| | Imports from U S.A. | Exports to U.S.A. | Imports from U S A | Exports to U S.A. |
| | In U.S A. dollars. | In U.S A. dollars | In U S A dollars. | In U.S A dollars. |
| 1890 | 19,310,000 | 4,800,000 | 19,320,000 | 8,700,000 |
| 1906 | 69,000,000 | 38,700,000 | 33,430,000 | 25,700,000 |
| 1928 | 393,400,000 | 253,000,000 | 138,200,000 | 94,800,000 |
| 1931 | 240,300,000 | 145,860,000 | 87,900,000 | 98,700,000 |

It appears from this table that commerce between the U.S.A. and China and Japan has increased particularly in the years after the War and the years immediately preceding this period; the reasons for this will be mentioned later.

† According to the 1914 volume of the "Statistisches Jahrbuch für das Deutsche Reich," Germany exported in 1913 into Japan iron bars to the value of 10·8 million marks, electric motors and dynamos to the value of 3·2 million marks, other electrical articles to the value of nearly 2 million marks, and pharmaceutical goods to the value of about 1 million marks. Into China, Germany exported in 1919 26 9 million marks worth of indigo, 19 million marks worth of tar colours, 2·3 million marks worth of ironware, etc.

the Far Eastern markets, particularly since, owing to the submarine and floating mine war, the overseas transport of goods was nearly impossible. It was at this time that American industry made its successful inroad into the Far Eastern market, and it was in consequene of this event that the quantity and value of goods shipped to the Far East over the Pacific Ocean increased to the relative detriment of the route leading to Europe, *i.e.*, of the Suez route.

In a paper published by Mr. Wallace M. Alexander entitled, "The U.S.A. View of Trade Relations with Japan. International Conciliation. Present Problems of the Orient," edition of the Carnegie Endowment, June, 1932, No. 281, a very good survey is given of the increasing commerce between the U.S.A. and the Far Eastern countries, owing to which the importance of the Pacific Ocean has greatly increased as compared with that of the Atlantic Ocean.

In his paper, which has aroused the widest interest, Alexander stated, among other points, that the commerce of U.S.A. with Asia in 1913 amounted to 125 million dollars only, whilst to-day it already exceeds 2,000 million dollars, which means an increase of 1,500 per cent. in fifteen years. Since the World War the commerce of the U.S.A. with China has doubled, and with Japan has trebled. The commerce of the State of California alone with the Far East has increased by 300 per cent.

From 1911 to 1929 imports of the U.S.A. from Europe increased by 169 per cent., exports to Europe by 184·6 per cent. As against this, imports from Asia increased by 563 per cent., exports to Asia by 860 per cent.

As regards the kind of goods figuring in the commerce between the U.S.A. and the Far East, the following facts are remarkable :

Japanese exports to the U.S.A. consist mainly of silk, which article accounts for about 80 per cent. of the total exports of Japan to the U.S.A. The main item of

Japanese imports from the U.S.A. is cotton, 40 per cent. of the whole of the cotton imported by Japan being imported from the U.S.A. This cotton is worked up by the highly developed textile industry of Japan, the products of which are placed mainly in India. (See p. 347.) In 1913 alone 890,000 bales of cotton of 500 lbs. weight each were supplied by the U.S.A. to Japan, whilst in 1931 the quantity amounted to 1,740,000 bales. Owing to the fall of cotton prices, however, this increased quantity did not represent an increased value.

In general, the tendency of the commerce between U.S.A. and Japan to decline during the last year is due to the fall in prices, as will be explained in greater detail later. The main articles imported into Japan from U.S.A. are the following:

Cotton (40 per cent. of all imports into Japan from the U.S.A.); oil, 11 per cent.; iron and steel products, 7 per cent.; motor cars, tractors and motor car parts, 4·8 per cent.; timber, 4·4 per cent.; cereals, 4·5 per cent.; machinery, 4 per cent.; manure, 2·7 per cent.; electrical machinery, 2 per cent.; other articles, 20 per cent.

The exports of Japan to the U.S.A. consisted of silk to the extent of 80 per cent.; articles of food (tea, dried beans, fish), 4 per cent.; objects of art, 1 per cent.; furs (blue foxes from the island of Sakhalin), 1 per cent.; other articles, 14 per cent.*

In addition to the Japanese market, the Manchurian market is also very important from the point of view of U.S.A. commerce. The total commerce between Manchuria and the U.S.A. amounted in 1930 to 38,090,000 Haikwan taels at par, whilst at the same time the commerce of Manchuria with Great Britain amounted to 34,860,000 and with Japan to 307,608,000 Haikwan taels. The considerable commerce of Manchuria with Japan also helps to increase the traffic directed towards the Pacific Ocean.*

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* Figures of commerce will in the future be greatly influenced by customs' duties. In 1930 the U.S.A. slightly raised customs duty rates. It is manufactured Japanese silk goods which are hit hardest by this raising of the rates. Already now, the rates of customs' duties in the U.S.A. are fairly high, varying between 15–110 per cent. of the value of the goods, and recently Japanese economists have been contemplating the establishment of customs' duty regulations by way of retaliation. See the above paper by W. M. Alexander.

All this points to the rapid increase of traffic on the Pacific Ocean, which is incomparably greater than the corresponding increase of traffic on the Atlantic Ocean. This problem will be fully dealt with in Chapter I of Part III. Here we only wish to point out that in recent times Trans-Pacific traffic has greatly increased at the expense of the Suez route.†

Accordingly the United States, whose industry developed rapidly during the War, particularly after that country joined in, purchased a part of the raw materials required by them in Japan and China.‡

To this have to be added the war materials and other articles supplied to Russia by the U.S.A. through Vladivostok, the only Russian port free from the blockade of the enemy Powers. (See p. 281 of the present work and p. 138 of the work, "Japans Aufstieg zur Weltmacht," by A. J. Brown.)

The rapid consolidation of commercial relations between the Far East and North America caused a

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* For details see the paper referred to and the "Manchurian Year-book," published each year in Tokyo, which contains the most exact data concerning Manchuria.

† A good idea of this question is given by a comparison of the commerce of the U.S.A. during the same periods with Europe and Asia. Notably, the figures of the commerce of U.S.A. with Europe and Asia were as follows :—

| Year | Commerce of U S A with Europe in U S A dollars | | Commerce of the U S A with Asia in U.S A. dollars. | |
|---|---|---|---|---|
| | Imports | Exports. | Imports. | Exports |
| 1906–7 | 747,291,000 | 1,298,452,000 | 212,475,000 | 92,703,600 |
| 1928–29 | 1,302,453,000 | 2,396,784,000 | 1,223,047,000 | 685,475,000 |
| 1930–31 | 719,215,000 | 1,522,670,000 | 685,160,000 | 284,930,000 |

‡ Of typically Chinese and Japanese agricultural products and raw materials, the U.S.A. imported in 1928–29, 78,860,000 dollars' worth of oil seeds, 387,960,000 dollars' worth of raw silk, 40,229,000 dollars' worth of silk goods and 26,968,000 dollars' worth of tea.

weakening of the commercial relations between the Far Eastern countries and Europe. This fact will be discussed in greater detail in Chapter I of Part III. Here we only wish to affirm that during the War the direction and intensity of commerce of the Far East was diverted towards the East (America) at the expense of the West (Europe).

Increased commerce with America has increased the intensity of traffic on the Pacific Ocean. The opening of the Panama Canal (see also pp. 287, 288) still further favoured the products of American industry in their conquest of the Far Eastern markets, as it became possible to transport the products of the Eastern (industrial) States of the U.S.A. to Asia over the much shorter Panama route, by which means it became possible to avoid the long Magellan route or the expensive railway transport. (See in greater detail Chapter I of Part III.) One of the most important economic events of recent times in the Far East has been the extremely rapid development of Japanese industry and its energetic expansion in China and India. In the first-named country it threatens equally the position of British, German and North American industry, whilst in India it has, with the aid of the anti-British boycott, crowded out the products of the British textile industry. Great Britain now feels compelled to investigate this question very thoroughly, as proved by the fact that in the year 1930 it sent out the Economic Mission to the Far East, the report of which will be discussed later. (See p. 294.) *

In his book, "Japans Aufstieg zur Weltmacht"

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* Owing to want of space, we cannot discuss here in detail the development of Japanese industry, as this subject would require a separate study. Very interesting data concerning the development of Japanese industry are contained in the annually published Official Statistics of the Department of Commerce and Industry in Tokyo, as well as in the following recent publications: S. Doke, "Economic Development in Japan since the Meiji Restoration," Tokyo, 1930. A. J. Brown, "Japans Aufstieg zur Weltmacht," Orell Füssli, Zurich, 1931. Dr. Prof. H. Lévy, "Aufstieg der Fernöstlichen Grossindustrie." In the book, "Der Internationale Kapitalismus und die Krise," published by Enke, Stuttgart, 1932. S. Uyehara, "The Industry and Trade of Japan," P. S. King and Son, London, etc.

(published by Orell Füssli, in Zurich, 1931), A. J. Brown mentions that whilst in 1883 the number of factories in Japan was only 125, their number had by 1921 already increased to 47,786, whilst to-day it exceeds 50,000.

The investigation of the volume of the products of Japanese industry also shows clearly the tendency of Japanese industrial production to increase. The value of the products of the national industries of Japan, viz., silk and the textile industry, amounted in 1884 to 5,987,500 yen, whilst in 1890 it amounted to 330,040,000 yen, and to-day it has reached the figure of 1,460,000,000 yen. The figures are taken from the 1893 and the 1932 issues of the "Statesman's Year-book." In addition to the silk and the textile industries, an extraordinary increase is shown by the returns of the heavy machinery and electrical industries as well as by those of the match industry, in the field of which Japan to-day holds the second place, next to Sweden. Owing to the low rate of wages mentioned before, Japan has, in the course of time, become a dangerous competitor in the world's markets. Japanese factories are producing bicycles at 12 dollars (see p. 68 of A. G. Brown's book), and in all branches of the wood industry they are able to produce goods at such cheap prices that American wood-working factories would be ruined if they were not protected by tariffs. Owing to the low costs of production Japanese industry has now become the most dangerous rival of European and American industry in the Far East, and even in Europe.

Although the task would be most interesting, we nevertheless do not wish to go in detail into the question of the industrialisation of Japan, and will therefore confine ourselves to the above remarks to illustrate the development of Japanese industry.

What we are concerned with, particularly in the present study, are the effects of the development of Japanese industry on the direction and intensity of transport. From this point of view it is interesting to note that to a certain extent the development of Japanese industry was an artificial one, because one of the most important requirements of industrialisation, the presence of raw materials in the country, is non-existent in Japan. Accordingly, Japan is compelled to import from abroad a great part of the raw materials she requires, chiefly mineral products, and therefore imports of raw materials into Japan have been increasing in proportion to the development of Japanese industry. It is only owing to the extraordinarily low rate of wages that Japan manages to balance the extra cost of industrial production due to the necessity of transporting raw materials to Japan from a great distance.

Another effect of industrialisation was the necessity for creating a special fleet for the transport of raw materials as well as of semi-manufactured and manufactured products. This will be discussed further on p. 140.

It was, of course, also necessary to provide for an outlet for semi-manufactured and manufactured products to be available at the time when Japanese industry should have attained such a degree of development as to enable it to think of expansion abroad in addition to covering inland requirements. The territories which offered themselves as natural outlets were China and British India, the large populations of which represent powerful consuming publics and to which countries Japan is the nearest of all industrial countries. Accordingly commerce between these countries and Japan has greatly increased during recent times.

Whilst the increase of Japan's trade with British India has been considerable, the increase of its trade with China has been still greater. In 1890 Japan's trade with China amounted to 14,050,000 yen, whilst in 1929 it reached the figure of 607,000,000 yen. It is already evident how strenuously Japan is now endeavouring to crowd out foreign industry from China in order to create a market for her own products in this large consuming territory. Accordingly transport between China and Japan has recently become very active. In the trade with North China alone there is engaged a Japanese commercial fleet of about 285,000 tons, not counting the fleet of 300,000 tons engaged in trade with Europe through China's ports. At the beginning of 1932 the Chinese boycott against Japanese goods had begun to assume large dimensions. According to a publication of the Carnegie Foundation (No. 281, June, 1932), Japanese exports to China in 1931 diminished by 40 per cent., whilst in the first months of 1932 the decrease which took place, owing to the events in Shanghai, amounted to 68 per cent. We believe, however, that this decrease, due to reasons of national sentiment, is of a temporary character only, whilst economic forces of a more permanent nature are acting in the direction of further promoting the development of Japanese exports to China.

As mentioned, Japanese industry is supported in the Far East by the powerful merchant fleet of Japan, which transports Japanese goods at preferential rates, thus affording a very great advantage to Japanese industry. The Japanese merchant fleet has been of great assistance in the development of Japanese industry, and it is this fleet which is partly responsible for the acquisition of new markets in the Far East by Japanese industry and for the corresponding loss of markets to British industry.

The industrialisation of Japan has exercised a great influence on the direction of transport and on the routes used for the shipment of various raw materials and manufactured products. Particularly it has caused the development of those routes over which the raw materials required by Japanese industry are being shipped to Japan (mostly mineral products from Canada, U.S.A. and China), as well as of those over which Japanese industrial products, chiefly textile goods, have been shipped to various consuming territories.

In proportion as Japan grows able to supply the industrial products required in the Far East, or in some other part of Asia as well, the products of the industry of European countries and of the U.S.A. will lose their markets there and the volume of trade of these countries with the Far East will accordingly diminish, as has already been the case with regard to textile goods. A slow change in the direction and intensity of traffic is therefore to be expected, which change, in addition to being detrimental to the industry of the countries concerned, will also be a heavy blow to European shipping companies. (See also Chapter IV of Part II and Chapters I and III of Part II.) It remains an open question as to how far the British customs tariff introduced in the year 1932 will influence traffic between the Far East and Great Britain.

Finally, we wish to mention a circumstance which has exerted a very marked effect on international trade, and particularly on certain shipping routes, including that of Suez. (See p. 320.) This circumstance is the heavy fall of the wholesale prices of the articles of world commerce.

Over-industrialisation during and after the War, with which the purchasing power of consuming markets was unable to keep pace, led to a catastrophic fall of the prices of raw materials and agrarian products. The table published on p. 47 shows the decline in price of the most important raw materials and agrarian products from 1926 to 1931. It is clear from this table that as compared to their prices in 1926, rubber has dropped by 90 per cent., American wheat by 65·44 per cent. The effects on traffic of the fall of prices due to overproduction of raw materials have, in the first place, been due to the fact that often the shipment of greatly depreciated products was no longer profitable (in Brazil, large quantities of coffee beans have been poured into the sea), owing to which fact the tonnage of goods transported on a number of shipping lines, particularly on the Suez route, has suffered a marked falling off. (See " Rapport de la Compagnie Universelle du Canal Maritime du Suez," 1931.) In the further course of our investigation we shall repeatedly have occasion to return to this point.

In some place (for instance, in the Pacific Ocean) the fall in price of raw materials led to a disproportion between the value of the goods transported and the freight tariffs, which often interfered with the regular development of the traffic. It is a well-known fact that

## CHANGES IN PRICES OF SOME ARTICLES OF WORLD COMMERCE DURING THE LAST FEW YEARS *

| Name of article. | Rice | Copra. | Wheat. | | Rubber. |
|---|---|---|---|---|---|
| Quoted at | Tokio. | New York | Chicago. | Melbourne | Singapore. |
| Price expressed | in yen. | Dollars. | Dollars. | £ s. d | Straits dollars. |
| Unit of weight | 1 koku | 100 lbs. | 1,000 bushels. | 1 bushel. | 100 bushels. |
| 1924–26 . | 39·19 | 5.83 | 153·07 | 0 5 11 | 80.21 |
| 1929 . . | 28.93 | 4.40 | 130.40 | 0 4 10 | 34.65 |
| 1930 . . | 25·31 | 3.70 | 98.80 | — | 19.34 |
| 1931, July . | 19.86 | 2.30 | 52.90 | — | 9.56 |
| 1931, September | 19.06 | 1.90 | — | — | 8.00 |
| 1931, December | 17.46 | — | — | — | — |
| | (44·54) | | (65.44) | | |

| Name of article. | Oil. | Silk. | Zinc. | Tea. | Cotton. |
|---|---|---|---|---|---|
| Quoted at | California. | Tokio. | London | Tokio. | New Orleans |
| Price expressed in | Dollars. | Yen. | £ s. d | Yen. | Dollars. |
| Unit of weight | 100 barrels. | 100 kin (Jap) | 1 ton. | 1 kwan. | 1 lb. |
| 1924–26 . | 1.09 | 1844.33 | 34 13 0 | 6.05 | 22.57 |
| 1929 . . | 0.86 | 1317.55 | 24 15 10 | 6.85 | 18.57 |
| 1930 . . | 0.87 | 865.02 | 16 11 5 | 7.17 | 13.10 |
| 1931, July . | 0.65 | 590.00 | 12 5 77 | 5.00 | 9.10 |
| 1931, September | 0.65 | 583.80 | 11 11 5 | 5.00 | 7.00 |
| 1931, December | | 555.22 | 14 7 13 | 4.00 | 6.20 |
| | (40.37) | (69.91) | | | |

1 ton = 1·016 kg.  1 kin = 0·600 kg.
1 koku = 180·39 litres.  1 kwan = 3·75 kg.
1 barrel = 158·99 litres.  1 lb. = 0·4536 kg.
1 bushel = 35·24 litres.

* The figures in parenthesis indicate the percentage of the fall in prices of the goods in question as between the first and last price quoted.

transport undertakings in general affect the transport of goods on three different tariff systems: (1) the so-called space utilisation system, which bases its rates on the cubic volume occupied; (2) the so-called *ad valorem* of the goods transported; and (3) the so-called mixed system, representing a combination of the two systems mentioned.

Enterprises shipping goods, according to the second or third system, suffered particularly severe losses owing to the fall in prices of raw material and manufactured products.

At the time these lines are being written, prices of raw materials are already beginning to rise slightly. This can be explained by the exhaustion of stocks, and some economists consider this a sign of an improvement in the general trade situation. (Detailed statistics with regard to the trend of prices of raw materials can be found in the publication of January, 1932, of the Institut International de Statistique.)

Whenever values of goods transported figure in the statistical tables contained in the present work, the fact of the great fall of prices which has taken place in the last years should not be forgotten, as otherwise the comparison of the data for last year and the data of five years ago may lead the reader into erroneous conclusions.

A great effect was also produced by the decline in value, due to fall in price of silver as compared with gold,* of certain Far Eastern silver currencies, such as Haikwan taels, Mexican dollars and Hongkong dollars.

The most important effect of the fall in prices of the silver currencies on economy in general was that merchants in the Far East, who had been placing their orders in sterling or dollars and sold the goods for silver currency, suffered very severe losses, only part of which has been compensated for by the profit due to purchase in silver currency and sales in currency of full gold value. The depreciation of the yen by 60 per cent. as compared to its rate of exchange in 1929, caused by the hostilities in Manchuria, has been taken advantage of by Japanese economic life, on the Chinese market as well as in shipping, where Japan has been able to compete successfully with some other countries which have still retained the gold standard. The effects of the depreciation of the U.S.A. dollar are not treated in the present work, because this depreciation took place only when this book was going to be printed.

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* In its issue of June-December, 1931, the *Journal des Économistes* published the following data with regard to the fall in prices of the Haikwan tael: at the end of the year 1931, 6·75 French francs were paid for one Haikwan tael, whilst its parity is 17·06 French francs. Similarly, the Hongkong dollar fell in September, 1931, from its parity of 12·19 French francs, to 6·20 French francs.

The effect on goods transport of the decline in value of the silver currency was particularly marked on the Suez route, but it was also noticeable in Trans-Pacific traffic. (See the publications of 1931 of the Compagnie Universelle du Canal Maritime du Suez.)

As regards passenger traffic between the Far East and the other parts of the world, it is necessary to distinguish between emigrant traffic, directed from the Far East outwards, and the rest of passenger traffic directed to various places, and including the commercial public, tourists, etc.

Emigrant traffic directed outwards from the Far East has acquired a very great economic and politic importance, particularly during the last decades, due to the fact that the natural increase of population is very high in China as well as in Japan (1·5 per cent. per annum in China and 1·2 per cent. per annum in Japan), and that accordingly the land available becomes more and more insufficient for supporting the population. (In China the density of the population is forty-three souls per square kilometre, in Japan 170.*)

According to a publication issued by the Imperial Statistical Office of Japan ("Arable Land Census of Japan Proper," 1929), the area of land according to official calculations amounted to 5,850,000 hectares. (Of this area 54 per cent. represents rice fields.) The area of the whole of Japan is 36,190,000 hectares, and therefore 15 per cent. of the whole land was under agricultural cultivation in 1928. This seems a relatively low figure, but it should be borne in mind that in this country, the main part of which is mountainous, only a limited area is available as arable land: 52 per cent. of the whole 5,850,000 hectares of land under agricultural cultivation was cultivated by the owners, whilst 48 per cent. was worked by tenants.

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* In 1913 Japan was still able to supply 96 per cent. of its own annual requirements of rice, whilst in 1928 it already had to import 16 per cent. (See the issue of March, 1932, of the *Round Table*.)

In China no agricultural census has been taken up to now, but an official one is about to be made. (See C. C. Chang, "A Proposed Plan for taking China's First Agricultural Census," Shanghai, 1930.) Owing to the absence of data we cannot speak in greater detail of the area under cultivation.

Emigration from China is, in addition to over-population, also promoted by other causes. For instance, about three million (see the March, 1932, number of the *Round Table*) people have emigrated during the last six years to Manchuria from the territories where the civil wars have been raging. Similarly, the frequent great floods (particularly of the Hoangho and of the Yangtze-kiang River), which often destroy the crops of large districts and ruin many villages, induces the agricultural population to move towards the ports, where more varied opportunities for work exist, and where they can get a better living as quay workmen and coolies. Accordingly, in China, a considerable movement of internal emigration must be reckoned with, in addition to emigration abroad. Similar movements, though to a lesser degree, are found in nearly all countries.

The number of Chinamen living outside China was estimated in 1928 at the figure of 6,246,682. Of these, 295,700 lived in the Straits Settlements, 1,456,000 in British India, about 70,000 in the U.S.A., etc.

No reliable data are, however, available as to the number of Chinamen emigrating each year.

More exact data are available concerning the emigration movement of Japan in the official publication bearing the title, " Statistics of Japanese Emigration," which was published last in 1929. It appears from this publication that in 1929, 759,439 Japanese were residing abroad, whilst in 1914 their number amounted to 138,591 only. The number of persons who emigrated from Japan in the year 1927–28 was 25,704.*

It appears from the data of the schedule given below that of the 25,704 emigrants in 1929, about 60·68 per cent. emigrated to Brazil and other South American countries. It is remarkable that the official Japanese publication mentioned does not publish any data concerning emigration to Manchuria.†

It appears from the above that Japanese emigration is at present mainly directed towards Manchuria, which provides a territory of expansion for Japan, and emigration in this direction may be expected to increase still further because the new independent state in Manchuria is falling entirely under Japanese influence. (See the issue of March 15th, 1932, of the Japan *Times*, Overseas Edition.) There is also a strong movement of emigration from Japan to Brazil, which is managed on the basis of the Emigration Agreement between Japan and Brazil.

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* The detailed data for the year 1929 are as follows: There emigrated: to the U.S.A.: 153 men and 83 women; to the Hawaii Islands: 70 men, 49 women; Canada: 329 men, 101 women; to Mexico: 195 men, 54 women; to Panama: 12 men, 12 women; Cuba: 18 men, 11 women; Brazil: 8,439 men, 7,158 women; Peru: 1,070 men, 515 women; Argentina: 339 men, 91 women; Chile: 12 men, 10 women; Bolivia: 15 men, 6 women; Columbia: 41 men, 18 women; U.S.S.R.: 871 men, 13 women; Hongkong: 28 men, 11 women; Indo-China: 13 men, 9 women; Malay-States: 365 men, 148 women; Siam: 1 man, 2 women; India: 25 men, 27 women; the Dutch Colonies: 388 men, 119 women; Borneo: 26 men, 4 women; Philippine Islands: 3,623 men, 912 women; Australia: 269 men, 8 women; British Fiji Islands: 3 men, 1 woman; French Pacific Island: 16 men, 1 woman; other places: 16 men, 1 woman.

† Data for 1930 concerning Manchuria can be found in the March, 1931, number of the *Round Table*. According to these data there are living in Manchuria, 228,000 Japanese and 600,000 Koreans. As to the number of annual emigrants from Japan, no data can be found, however, here either. The December, 1931, number of the *Journal des Économistes*, estimates the number of Japanese living in Manchuria at 101,720. (On the Liaotung Peninsula live 100,000 Japanese.)

Recently a similar agreement has been concluded between Japan and the Union of South Africa also (see June, 1931, number of the *Round Table*) ; whilst emigration of Chinamen and Japanese to the western parts of U.S.A. and Canada, which some time ago showed a strong tendency to increase, has, owing to the anti-immigration policy of these countries, greatly diminished and become insignificant.*

It is partly due to regulations enacted by various countries to prevent immigration of the yellow race and partly to other conditions, such as conditions of climate, which are, for instance, preventing any considerable immigration of Japanese to Siberia, that the yellow race now chiefly migrates to Manchuria, to the Malacca Peninsula and to the South American countries, where the density of population is relatively low. (In Brazil the number of inhabitants per square kilometre is 3·61.) Owing to the extreme poverty of the emigrants, the shipping companies have been compelled to refrain from fixing a uniform tariff for emigrants (see " N.Y.K. Sailing Schedule," 1930), but make the fare dependent on " appointment " in each case. Of course the steerage passengers, *i.e.*, the emigrants, are very severely exploited in any case. In consequence of the fact that no fixed tariff has been established for the transport of emigrants, it is very difficult to assess the receipts of Japanese shipping companies from this source, particularly as the shipping companies do not publish any detailed data on this point.

Passenger traffic, other than immigration traffic (the commercial travelling public, engineers, persons engaged in scientific pursuits, tourists, etc.), is increasing in proportion with the increasing importance the Far Eastern countries are gaining in international trade. Especially the number of commercial travellers, clerks, etc., of North American, British, French and Dutch commercial and industrial firms has greatly increased, particularly since the countries referred here possessed concession territories in China, where the exporting firms of the countries in question as well as international banking institutions have been able to settle. German influence, which was very considerable before the War, particularly in Hankow, Tsingtau and Tientsin, has to-day lost a great part of its importance, whilst Italian influence, and in a smaller measure Czechoslovakian influence (particularly owing to the exports of the Skoda and the Bata Works), have increased. The representative of Hungarian commercial relations in the Far East is the firm of Messrs. Komor and Komor (Kun and Komor) in Shanghai and Hongkong. This firm is of excellent repute, it has been in existence over nearly half a century and has maintained its pre-war position unchanged.

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* In his work, entitled, "Immigration into the United States" (National Bureau of Economic Research), published in 1931, W. F. Willcox puts the number of Japanese immigrants into the U.S.A. in 1907 at 30,824 persons, whilst in 1930 this number was only 796.

The settlement of European and American merchants in the Far East has, of course, led to the settlement of other persons from these countries (members of the families of the original settlers, European and American physicians, engineers, garrisons of concession territories, missionaries, etc.). At present the foreign population of Japan is estimated as amounting to 34,917 persons, and that of China to 349,735 persons.*

Owing to the great interest of the exotic character of the Far Eastern countries from the point of view of ethnography, popular art and architecture, these countries are being visited more and more by tourists of all nations, particularly since travelling in the Far East has been facilitated owing to the means of communication in these countries having been modernised. Experience teaches that the largest body of travellers wishing to travel in comfort are tourists, and accordingly first-class passengers mostly belong to this category, whilst most of those travelling on business, who know local conditions better, go second class. The tourists are mostly North American and British, the other nations each supplying only a very small contingent. Recently tourist traffic and journeys made for purposes of study from Japan to North America and Europe are increasing, owing to the orientation of Japan towards Western culture.

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* In the foreign population of China in 1923 ("Statesman's Year-book," 1930), the various nations are represented as follows: Americans 6,023, British 12,382, Czechs 582, Japanese 239,180, Poles 1,513, Belgians 676, Danes 667, Dutch 645, Germans 3,026, French 2,584, Portuguese (particularly in Macao) 2,462. The "Statesman's Year-book" does not mention the number of Hungarians, but according to private information obtained in Shanghai their number probably does not exceed 200.

Of foreigners in Japan, 25,963 are Chinese, 2,014 British, 2,271 North Americans, 1,069 Germans, 468 French, 180 Portuguese, 38 Dutch and 1,473 Russians.

Exact statistical data concerning passenger traffic in the Far East are not available.*

The extent and intensity of postal traffic between the countries of the Far East and the other parts of the world, as well as between one country of the Far East and another, and the equipment and means for the communication of messages vary naturally with the development and cultural level of the population, and with the degree to which Japan and an increasing portion of China are engaging in international goods and passenger traffic.

Many people are of the opinion that the degree of economic and cultural development of a territory is measurable by the development of the means and equipment for the communication of messages (postal, telegraph, telephone and wireless services), and by the frequency of their use. Certainly in the Far East the economic progress of the countries is truly reflected by the gradual development of the institutions for the communication of messages. (See in greater detail Chapter XII of Part II.)

Here we must also mention the *rôle* played by foreign, chiefly British, import and export firms in the Far East, particularly in China, of which more will be said in other parts of this work.

In the history of colonisation, large commercial companies or private firms have always played an important *rôle*, and it was only after the colonisation work of these commercial enterprises had led to successful results that the countries to which they belonged took possession of the territories concerned, generally justifying their action by the necessity of protecting the interests of these firms of importers and exporters. Important companies of this kind were, for instance, the Hudson Bay Company in North America, the East Indian Company in British India, etc.

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* The port authority of Hankow has published some statistics on this point. According to these statistics about 311,000 passengers paid a visit to the port and city of Hankow. Of these 304,000 were Chinamen and only the remaining small fraction belonged to other nations.

When China and Japan opened their doors to European and American trade, business firms from most trading countries settled in large numbers, chiefly in the coast towns (Shanghai, Yokohama), but later on also in many important inland places (Hankow) in order to organise commerce in the newly opened producing territory and consuming market. Their activity had at first two objects: (1) To acquire the products of the newly opened up regions for the purpose of selling them in European and American markets; and (2) to ensure an outlet for the mainly industrial products of Europe and America.

Increased trade with the countries of the Far East has caused the activity of the commercial companies to extend to a very wide field. A number of large firms of importers and exporters not only extend their activity to all kinds of goods, from military armaments to preserves, drugs, machinery, all kinds of food stuffs, musical instruments, etc., but, as will be shown later, they also possess an important fleet of vessels of their own, by means of which they are effecting the distribution and collection of goods particularly in the Yangtze-kiang valley and along the Chinese coast. Moreover, they are competing with shipping companies in the transport of passengers also. It is only natural that other firms, particularly steamship companies, should endeavour to profit by the economic influence of these old-established firms by making them their agents. These firms also, to a certain extent, transact banking business, and some of them have their own factories, as, for instance, Messrs. Butterfield and Swire, who possess a sugar factory in Hongkong.

The number of these firms is very large. We confine ourselves to mentioning only the most important among them.

Among all firms engaged in similar activities, two British firms of importers and exporters, Messrs. Jardine, Mathison & Co. and Messrs. Butterfield and Swire, both of which can look back on a past of many decades, occupy a predominant position. Both firms possess branches in nearly every important Asiatic port, but the main fields of their activity are the Chinese seaports and the valley of the Yangtze-kiang. Each of the two firms to-day possesses a considerable fleet of ships. (See p. 209.) They also act as agents for a number of shipping companies. Thus, for instance, Messrs. Jardine, Mathison & Co. represent in Shanghai the Glen and Shire Line, whilst in Hongkong they represent, in addition to the Glen and Shire Line, the Indo-China Steam Navigation Company, the Royal Mail Steam Packet Co. and the Western Australian Steam Packet Co. Messrs. Butterfield and Swire represent in Shanghai the Canadian Pacific Co., the China Navigation Co., the China Merchants Co., the China Mail Co., etc.

Of Japanese firms of merchants the most important are the Mitsubishi Nippon Menkwa Kaisha, the Mitsui Bussan Kaisha, etc. The Hungarian firm of Messrs. Komor and Komor has its headquarters in Shanghai and a branch in Hongkong, which latter city was their original place of settlement. The firm is chiefly engaged in the silk trade (Hongkong branch).

Of the larger American firms we would mention the American Trading Co. and Messrs. Andersen, Mayer & Co.

To-day many firms of importers and exporters have specialised in the importation and exportation of certain definite kinds of goods only. Thus Messrs. Komor and Komor specialise in the silk trade, the Nippon Menkwa Kaisha in the cotton trade, etc.

The firms of importers and exporters could never have acquired their present importance in China if they had not been assisted by certain political circumstances, for instance, by the opening of the free ports and the establishment of foreign concession territories.

The first Chinese ports opened for foreign trade were the ports of Canton, Amoy, Foochow, Ningpo and Shanghai. These five ports were opened in 1842 after the Opium War. Since that time the number of free ports has increased to seventy-four. (Sea and river ports.*)

The concessions have originally been small territories in the more important Chinese ports and inland centres, where China has resigned its sovereignty in favour of the country to which the concession territory in question was granted. The concessions were generally granted by China to the various Foreign Powers as a kind of compensation for the losses suffered by nationals of the countries in question during the revolts against the Foreign Powers (Tai-ping Revolution; Boxer Revolt.) The concessionary Powers obtained and still hold the right of keeping a military garrison on the concession territories. They have their own tribunals (Consular jurisdiction) and administration, etc. Naturally the commercial firms, banks, shipping companies, as well as cultural institutions (hospitals, missions) of the country in question settle in the concession territories of their own nation.

As a result of the World War, Germany resigned the concessions she held in Tientsin and Hankow, as well as her other Chinese possessions (Tsingtau and Kiao-chou Bay), and the rights of consular jurisdiction. Similarly, Austria-Hungary also, in the St. Germain and Trianon treatise of peace, resigned her Tientsin concession, as well as the right of consular jurisdiction. The more important existing concessions are the following: British concessions in Shanghai: Tientsin, Hankow and Canton; French concessions: in Canton, Tientsin, Shanghai, Hankow; U.S.A. concessions: in Shanghai, Hankow; Japanese concessions: in Hankow, Shanghai, Tientsin; Italian concessions: in Tientsin, Hankow (former German concession). A Belgian concession existed in Tientsin up to 1931, at which date, however, Belgium resigned its rights in favour of China. Exterritorial regions of an international character exist in Shanghai, Peking (the so-called Legation quarter), Amoy, Foochow, Choutsun, Ningpo, Swatow, Tsinan, etc. As regards the old Russian concessions in Hankow and Tientsin, their legal position is uncertain, and depends on the attitude toward the U.S.S.R. of the Government which happens to be in power in the city in question. Now that the first autonomous Chinese customs tariff has become operative as from January 1st, 1931, trade with China finds itself faced with new problems. The customs tariff establishes equal rates for all countries trading with China. A duty of only 5–10 per cent. is charged on foodstuffs and important raw materials. On the other hand, an export duty of 75 per cent. is levied on raw cotton in order to protect the rising Chinese textile industry. The conversion of the tariff rates to a gold basis is now proceeding.

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* The most important of these are: (*a*) Seaports: Kiaou-chou, Wei-ha-wei, Shanghai, Foochow, Amoy, Kowloon, Woosung, Hongkong, Macao, Yingku, Dairen (Japanese sphere of interest); (*b*) River ports: Nanking, Hankow, Ichang, Canton,

The most important ruling of the new customs tariff is that it has put an end to inland duties, *i.e.*, to the so-called "likin." In 1931, customs receipts amounted to £22,369,500 as compared to £16,415,500 for the preceding year.

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# PART II

# THE PRESENT POSITION OF THE VARIOUS BRANCHES OF COMMUNICATION IN THE FAR EAST

## CHAPTER I

## THE JAPANESE AND KOREAN RAILWAYS *

THE great progress achieved by railways in Japan, and the rapid development of goods and passenger traffic on them, not only constitute evidence of the unparalleled rapid economic development of that country, but are also of paramount importance for the economical and political position of Japan as a Great Power.

In the present chapter we give an account of Japanese railways and their problems in the order indicated below :

### I. JAPANESE STATE RAILWAYS

1. The creation of the Japanese State Railways : (*a*) Reasons for the construction of railways in Japan ; (*b*) The *rôle* played by railways in the economic development of the country ; (*c*) Development of the Japanese State Railways.

2. Present condition of the Japanese State Railways : (*a*) Management of the railways and the number of employees ; (*b*) The financial position of the railways, the financing of the construction of new State railway lines ;

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* The limited scope of the present work does not permit us to discuss the present condition and all the problems of the Japanese railways in full detail, as this task would in itself require a separate work. We are therefore endeavouring to give an account of the more important economic aspects, whilst refraining from discussing questions of a merely technical nature. A very detailed account of railway conditions in Japan may be found in the Annual Report of the Department of Railways of the Government of Japan, officially published each year in Tokyo.

(*c*) Present financial position of the State railways. Financial results of operation; (*d*) Figures concerning goods and passenger traffic; (*e*) General principles of the business policy of the Japanese State Railways; (*f*) Rolling stock; (*g*) Substructure and structural equipment; (*h*) Locomotive performances; (*i*) Welfare institutions for the benefit of railway employees; (*j*) Railway electrification in Japan; (*k*) Passenger tariffs; (*l*) Goods tariffs.

3. Other branches of business of the Japanese State Railways: (*a*) Steamer and ferry boat lines of the Japan State Railways; (*b*) The hotels of the Japan State Railways.

4. The question of competition: (*a*) Competition against motor traffic; (*b*) Competition against shipping.

### II. JAPANESE RAILWAYS OWNED BY PRIVATE COMPANIES

1. The creation and development of privately owned railways in Japan: (*a*) Figures with regard to the development of privately owned railways; (*b*) Financing of, and support given, to privately owned railways by the State. The question of supervision.

2. The present condition of privately owned railways: (*a*) Financial results of operation; (*b*) Goods and passenger traffic; (*c*) Financial position; (*d*) Rolling stock; (*e*) Management and personnel.

3. Local railways: (*a*) Development of local railways; (*b*) Goods and passenger traffic; (*c*) Rolling stock; (*d*) The financial situation.

### III. KOREAN AND COLONIAL RAILWAYS

1. The Korean State Railways: (*a*) History and development of railways in Korea; (*b*) Goods and passenger traffic; (*c*) Financial position; (*d*) Rolling stock; (*e*) Financial results of operation; (*f*) Other branches of business of the Korean railways.

2. Privately owned railways in Korea.

3. The railways operating on the island of Formosa:

(*a*) Their development; (*b*) Rolling stock; (*c*) Financial position; (*d*) Financial results of operation; (*c*) Privately owned railways on the island of Formosa.

4. The State railways operating on the island of Karafuto (Sakhalin).

## IV. THE VALUE OF THE JAPANESE RAILWAYS

1. The value of the Japanese railways considered as an asset of the national wealth of Japan.

To enable the more important data of the Japanese railways to be seen at a glance, we publish a schedule showing the figures for the business year 1928–29.

A few data of the fiscal years ending March 31st, 1929, and March 31st, 1931, respectively of the Japanese State Railways:

| | Year 1929. | Year 1931. |
|---|---|---|
| Length of lines | 13,672 kilometres | 14,487 kilometres |
| Of this total length single-track lines represent | 11,563 „ | 12,304 „ |
| Double-track lines represent | 1,946 „ | 1,999 „ |
| Lines with three or more tracks | 160 „ | 183 „ |
| Total length of tracks | 22,627 „ | 24,008 „ |
| Passenger kilometres | 13,414 million | |
| Goods ton-kilometres | 13,574 „ | |
| Number of stations | 2,579 | 2,737 |
| Capital invested in lines, rolling stock, etc. | 3,109,089,387 yen | 3,382,820,115 yen |
| Capital per kilometre | 229,304 „ | 233,502 „ |
| Total annual receipts | 529,131,524 „ | 458,140,252 „ |
| Total annual expenditure | 300,707,785 „ | 284,824,020 „ |
| Annual gross profit | 228,423,739 „ | 173,316,232 „ |
| Percentage of profit calculated on capital | 7·9 per cent. | 5·3 per cent. |
| Annual gross profit | 228,423,789 yen | 173,316,232 yen |
| To be deducted herefrom: | | |
| Cost of supervision of privately owned railways | 474,805 „ | 586,879 „ |
| Various contributions | 5,357,227 „ | 3,382,422 „ |
| Interest service | 80,542,777 „ | 86,241,915 „ |
| Subsidies given to local railways | 6,298,172 „ | 7,499,934 „ |
| Other items | 124,956 „ | 17,621 „ |
| Net profits | 135,875,714 „ | 75,587,461 „ |

| | Year 1929. | Year 1931. |
|---|---|---|
| Gross receipts per kilometre | 39,110 yen | 31,807 yen |
| Expenditure per kilometre | 22,226 „ | 19,774 „ |
| Gross profit per kilometre | 16,884 „ | 12,033 „ |
| Number of locomotives | 4,200 | 4,189 |
| Number of passenger coaches | 11,179 | 11,556 |
| Number of freight cars | 65,896 | 68,353 |
| Number of seats in the passenger coaches | 633,302 | 675,211 |
| Carrying capacity of freight cars | 846,513 | 896,266 |
| Number of employees | 210,883 | 204,564 |
| Total monthly salaries of employees | 11,230,475 yen | 11,369,922 yen |
| Total number of passengers transported | 847,300,471 | 824,152,598 |
| Receipts of passenger traffic | 247,847,524 yen | 222,036,230 yen |
| Total quantity of goods transported | 78,506,849 tons | 64,087,099 tons |
| Receipts from goods traffic | 218,099,425 yen | 181,859,221 yen |
| Number of train-kilometres covered | 169,335,536 | 181,216,345 |
| Number of passenger-coach-kilometres | 793,541,436 | 820,370,660 |
| Number of freight cars kilometres | 2,037,991,662 | 1,862,514,579 |
| Number of locomotive kilometres covered | 184,809,397 | 191,968,483 |
| Number of cars per locomotive | 27 51 | 26·23 |

One of the circumstances which was decisive in the development of railways in Japan was the fact that Japan, forced by the technical superiority of Western nations to enter into trade relations with the latter, found that the absence of suitable technical equipment caused her to be at the mercy of Foreign Powers.

It was, in the first place, to ensure its own economic independence and to advance its rapid economic prosperity, without which the country opened to foreign trade would soon (as China did) have sunk to the position of a colony of European countries and of the U.S.A., that it became necessary to take immediate steps to develop a railway system, which again was largely instrumental in transforming the economic life of the country, so as to make its spirit approach more closely to that of Western business life.

On the other hand, the strategical safety of the country also demanded the immediate construction of a railway system. Recognising the technical superiority of the Western Powers, the Japanese Government came to the conclusion that the only way to ensure the independence of the country was to furnish it with technical equipment of a similar nature.

In the course of years the Japanese railways acquired very great importance in the economic life of the country. (See S. Doke, " Economic Development in Japan since the Meiji Restoration," Tokyo, 1930.) The main importance of railways consisted in rendering foreign commerce possible by enabling the products of the country to be shipped to the ports in a rapid, safe and systematic manner.

In addition, railways greatly helped the progress of culture and industrialisation in Japan, as by their aid it was possible to equip factories in various parts of the country as well as to construct roads much more rapidly.

At the end of 1905, about 3,252 miles of the total length of 4,785 miles of railways were owned by private companies. The number of latter was thirty-eight. It will be readily understood that this state of things was very unsound, as the length of lines owned by the individual companies was very small, the individual companies possessing little capital, and the splitting up of the railways of the country into so large a number of small economic units exerted a very unfavourable influence on economic life in general.

It was to remedy this state of things that in October, 1907, the law creating the Japanese State Railways was passed. In 1920 a special Railway Ministry was also formed, which since then has acted as the highest authority in railway matters.* The State has appropriated the lines belonging to the seventeen most important private companies.

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* Another country where a separate Railway Ministry has been operating is Austria, but in general the establishment of such a Ministry is not advisable, as it separates railways from the other communication institutions of the country and therefore renders the co-operation of the various branches of communication difficult, to the great detriment of the country in question.

The establishment of the State Railways gave a new impetus to railway construction, as a result of which the length of lines of the State railways reached in 1930–31, 14,487 kilometres (the length of the lines appropriated was 2,826 miles). Of this total length 12,304 kilometres were single track, 1,999 kilometres double track, 183 kilometres triple and quadruple track lines. During the fiscal year 1930–31, 364 kilometres of new lines were opened to traffic. The data with regard to capital invested will be found later on p. 69.*

The development of the Japanese State railways may be seen from the table which follows :

| Year. | Length of line. Miles. | Number of passengers transported. | Quantity of goods transported. Tons. | Receipts. Yen.† | Expenditure. Yen. |
|---|---|---|---|---|---|
| 1879 | 72 | 4,318,700 | — | — | — |
| 1885 | 140 | 2,607,300 | — | — | — |
| 1890 | 551 | 11,265,400 | 671,360 | 4,213,804 | 2,001,273 |
| 1895 | 593 | 18,764,390 | 1,100,060 | 8,004,233 | 2,951,561 |
| 1900 | 950 | 31,944,850 | 2,806,560 | 15,649,901 | 6,806,217 |
| 1905 | 1,500 | 31,026,946 | 4,403,494 | 24,056,140 | 11,129,155 |
| 1910 | 4,870 | 138,629,706 | 25,481,863 | 89,336,592 | 43,249,372 |
| 1915 | 5,757 | 172,290,045 | 35,800,664 | 120,212,355 | 55,601,686 |
| 1920 | 6,485 | 405,819,694 | 56,623,871 | 350,699,584 | 242,161,686 |
| 1925 | 7,825 | 677,085,503 | 71,939,246 | 484,082,955 | 259,439,720 |
| 1930 | 8,774 | 862,939,432 | 76,008,685 | 496,943,793 | 304,142,781 |
| 1931 | — | 824,152,598 | 64,087,099 | 458,140,252 | 284,824,020 |
| 1932 | — | — | — | 520,300,000 | 337,300,000 |

The first railway was constructed in Japan between Shinagawa (a suburb of Tokyo) and Yokohama in 1872.

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* The space available does not permit us to give a description of the more important railway lines. We can only mention the main so-called Tokaido line. The Tokaido line runs along the coast of the Japanese Inner Sea and connects, through the junction Nagoya, the five most important Japanese towns, Tokyo, Yokohama, Osaka, Kobe and Kyoto. Thus this line has become the main artery of transport. It possesses a direct connection with the continent of Asia (Trans-Siberian Railway) through Shimonoseki, the Korean railways and the South Manchurian railway. Its length (Tokyo-Kyoto) is 611 kilometres, and its construction was completed in 1889.

† Receipts and expenditure are tabulated beginning with the fiscal year 1890–91, and continued in the same way, so that the figure for 1895 means that for the fiscal year 1895–96, etc.

The systematic organisation of railway construction is based on the law concerning private railways enacted in 1887 and the law concerning railway construction enacted in the year 1891. After the war between China and Japan, which represented a golden age of development for the whole of the economic life of Japan, railway construction progressed at a very rapid rate. This period is characterised by the keen competition which existed between private railways and the railways constructed by the State. This competition certainly exerted a stimulating influence on development. A new era was opened in the history of railways in Japan by the Russo-Japanese War.

It was at this time that the nationalisation of railways was decided on. (Law concerning the nationalisation of railways.)*

The lines appropriated by the Japanese Government were those of the seventeen most important private railway companies. The price paid for these lines, in length about 4,800 kilometres, was about 500 million yen.

Before nationalisation, *i.e.*, in the year 1905–06, the length of private railway lines was 3,248 miles, as against which that of the railways constructed by the State amounted to 1,766 miles only. After nationalisation, *i.e.*, in 1906–7, private railway companies only owned a total length of lines of 1,692 miles, as against which the State Railway owned already a total length of lines of 3,116 miles. (See the 1907 and 1908 issues of the "Statesman's Year-book.") Simultaneously with the appropriation of railways, Parliament voted an amount of 174,523,365 yen, distributed over twelve years, for the construction of new railways.

In carrying out the programme of the nationalisation of railways, the main object was to create a network of State railway lines systematically connecting up all the economically important regions of the country and the great industrial towns.

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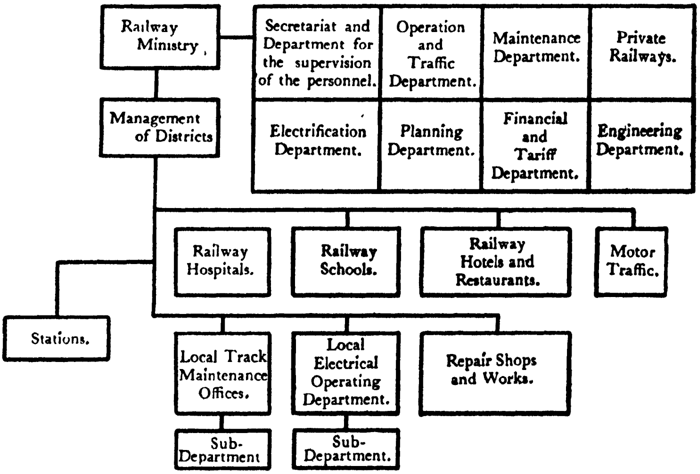
* This law was enacted on March 31st, 1906. (See 1908 issue of the "Statesman's Year-book.") The price paid for the lines appropriated has been calculated by capitalising to the average net profits of the last three financial years at a rate of interest of 5 per cent. The shares held by the shareholders were exchanged for State bonds.

Thus privately owned railways in Japan to-day no longer constitute a coherent network, but rather possess the character of a system of branch lines, and are prevented by the position of their lines from competing with the main lines of the State Railways.

We must refer, in a few words, to the system of management of railways in Japan.

The separate management of Japanese railways only began in 1908, when railway matters were removed from the sphere of activity of the Ministry of Communications and a separate Railway Ministry was created. The present system of management of the Japanese State Railways is based on the Imperial Order No. 143 of the year 1920.


Railway Ministry.
Secretariat and Department for the supervision of the personnel.
Operation and Traffic Department.
Maintenance Department.
Private Railways.
Management of Districts
Electrification Department.
Planning Department.
Financial and Tariff Department.
Engineering Department.
Railway Hospitals.
Railway Schools.
Railway Hotels and Restaurants.
Motor Traffic.
Stations.
Local Track Maintenance Offices.
Local Electrical Operating Department.
Repair Shops and Works.
Sub-Department
Sub-Department.

The management is under the authority of the Railway Ministry. The Railway Ministry consists of eight departments. For the purposes of management, the whole country is divided into six railway districts (Tokyo, Osaka, Nagoya, Moji, Sendai, Sapporo). The district managements are directly subordinated to the Ministry and are responsible for everything happening in their area with regard to operation as well as to business management. For this purpose a large number of subsidiary offices are working in connection with each district management.

The table on page 67 supplies an idea of the system of management of the Japanese State Railways.

The persons employed by the railways fall into two main grades, viz., that of permanent officials and that of ordinary employees. The first grade again consists of two grades, that of high or leading officials (Koto-kan) and that of subordinate officials (Hannin-kan). Within the grade of employees there are three grades: (1) Leaders (Tetsudoshu); (2) Employees (Koin); and (3) Lower or assistant employees (Yonin).

The permanent staff is in receipt of permanent fixed salaries, whilst the employees receive hourly or piecework wages.

The various grades of persons are distributed as follows (March, 1929):

| | |
|---|---|
| State officials of the highest rank . | 33 |
| High officials . . . . . | 944 |
| Officials of the " Hannin " grade . | 24,532 |
| Employees of the " Koin " grade . | 79,753 |
| Employees of the " Yonin " grade . | 99,302 |
| Total . . . | 204,564 |

The total monthly salary of the 204,564 persons employed amounted in the fiscal year 1930–31 to ·11,230,472, giving an average salary of 53·25 yen per month per person employed. The average in the grade of the high officials was 250 yen per month, in the Hannin grade of officials 89 yen per month, in the Koin grade of employees 55 yen per month, and in the Yonin grade of employees 45 yen per month.

The number of persons employed shows, as compared to the figures for the preceding year, an increase of 4,452 persons, due to the opening of new lines and to the increase of the traffic. This total of salaries of the personnel accordingly also showed an increase of 4,228,027 yen.

In accordance with modern principles of communication policy the Japanese State Railways possess an entirely independent budget of their own and therefore do not figure at all in the State Budget. Due to the excellent business results, it is possible to maintain this independence and thus the Japanese railways constitute a real self-supporting institution, the ideal, according to modern principles of communication policy, for all State railways, which is, however, very rarely achieved. The independence of the Japanese State Railways was established in the Railway Law of 1909. According to this law all the cost of railway construction and equipment was to be covered by the profits of the preceding years, and in case this should not be sufficient the deficiency could be supplemented by the issue of special railway bonds.

Up to March 31st, 1931, the total amount of capital invested in the Japanese State Railways amounted to 3,382,820,115 yen. In accordance with the Railway Law, a distinction must be made between capital owned by the Railway Administration itself (proper capital) and capital obtained by the issue of various loans (debenture capital) on which interest is payable.

According to the above, the capital invested up to March 31st, 1931, consisted of:

| | |
|---|---|
| Capital owned by the Railway Administration itself | 1,639,593,577 yen |
| Debenture capital . . | 1,743,226,538 yen |

At the beginning of 1928 the total capital invested in fixed plant and rolling stock was estimated to amount to 2,858,794,454 yen, whilst on March 31st, 1931, the capital invested into fixed plant and rolling stock had risen to 3,347,392,462 yen.

The assets of the State Railways accordingly consist of the following items:

| | |
|---|---|
| Cash in hand . . . | 853,711 yen. |
| Deposits . . . | 12,537,029 yen. |
| Credit . . . . | 91,046 yen. |
| Capital invested in fixed plant and rolling stock * | 3,347,392,462 yen. |
| Materials in hand † . . | 22,837,495 yen. |
| Workshop account . . | 571, 299 yen. |

It appears from the above that the general financial condition of the State Railways is fairly favourable. This will be corroborated by the investigation of the detailed business results for each year.

The table given below enables receipts, expenditure and profits of the Japanese State Railways for the fiscal year 1928–29 to be compared with the corresponding data for the two preceding years:

| | 1928–29. | 1927–28. | 1926–27. |
|---|---|---|---|
| | Yen. | Yen. | Yen. |
| Receipts from operation . | 529,131,524 | 506,444,660 | 484,082,956 |
| Expenditure in connection with operation . . | 300,707,785 | 281,987,954 | 270,838,998 |
| Profits . . . . | 228,423,695 | 224,456,706 | 213,243,985 |

It is seen from this that the expenditure in connection with operation as well as the receipts from operation have increased. Although it is not possible to obtain an exact

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* This includes the permanent way, superstructures, station buildings, signalling equipment, landed property (dwellings, railway hospitals, etc.) and rolling stock.

† The purchase of materials is effected by means of public calls for tenders. Strict limits are, however, fixed for the expenditure under this heading, as appears also from the fact that in the fiscal year 1928–29, material to the value of 152,627,000 yen was purchased in the country and only material to the value of 10 million yen was purchased abroad. Materials purchased are accounted for partly under the heading of traffic expenses and partly under that of operating expenses. The above figure only refers to stores in hand not yet used, assessed at cost price.

idea of the general tendency from the data of three years only, the figures nevertheless seem to indicate that the increase of expenditure due to the extension of operation was not entirely compensated for by the corresponding receipts. Working expenses amount to 56·8 per cent. of working receipts.

The Japanese railways have during the fiscal year 1928–29 shown a fair profit, the net profit amounting to 7·9 per cent. of the capital invested in the railways. In the year referred to the rate of profit of the Japanese railways was 0·4 per cent. less than during the preceding fiscal year.* In 1931 the rate of profits fell to 5·3 per cent.

Receipts and expenditure per mile show the following figures: Receipts per mile, 62,052,890 yen; expenditure per mile, 34,550,496 yen; profits per mile, 27,501,894 yen (in 1928–29). In the year ending March 31st, 1931, working receipts (458,140,253 yen) exceeded working expenses (284,824,021 yen) by 173,316,232 yen. Accordingly gross profits show a considerable diminution as compared to the fiscal year 1928–29, in which gross profits amounted to 228,548,695 yen. This phenomenon is a consequence of the general economic situation. Diminished receipts are compensated for in part only by the decrease of expenses owing to diminished traffic. Below we publish, for the purposes of comparison, the main figures of receipts and expenses of the Japanese State Railways for the fiscal years 1928–29 and 1930–31, from which the changes brought about by the economic crisis and their effect on the financial position of the Japanese State Railways can be clearly seen.

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* The following enumeration of the rates of profit earned by the Japanese railways clearly proves the excellent business policy, foresight and excellent administration which characterises this institution. The rate of profit was, in the fiscal year 1886–87 3·3 per cent., in 1895–96 (war between Japan and China) 11·1 per cent., in 1905–6 7·3 per cent.; of the War years: in 1915–16 6·2 per cent., in 1919–20 7·7 per cent., in 1925–26 8·8 per cent., whilst in the years immediately following the War (1920–23), which years were those of the great boom for the Japanese industry, the rate of profits rose to 10 per cent.

Receipts (in 1928–29) were made up of the following items:

| | 1930–31. | 1928–29. |
|---|---|---|
| | Yen. | Yen. |
| Receipts from passenger traffic . . | 261,131,079 | 292,624,385 |
| Receipts from goods traffic . . | 189,161,150 | 228,015,566 |
| Receipts from other sources . . | 7,848,024 | 8,491,572 |
| Brought forward from the preceding year . . . . . . | — | 124,957 |

One of the most interesting facts is that, whilst on most railways of other countries profits from goods traffic greatly exceed those from passenger traffic, the opposite is the case with the Japanese railways. The reasons for this phenomenon may be found in the geographical position of the country. First, there is no transit goods traffic on the Japanese railways, and, on the other hand, owing to the character of the country as an island country, a great part of the goods transported are shipped by steamer.

Expenditure is made up of the following items:

| | 1930–31. | 1928–29. |
|---|---|---|
| | Yen. | Yen. |
| Expenditure of a general nature . | 5,981,973 | 6,324,905 |
| Maintenance of track . . . . | 45,723,081 | 51,030,025 |
| Electrical equipment . . . . | 10,650,573 | 11,774,039 |
| Expenditure in connection with rolling stock . . . . . . . | 28,941,295 | 29,866,353 |
| Expenditure in connection with transport . . . . . . . | 74,536,698 | 81,124,151 |
| Traffic expenses . . . . . | 100,413,190 | 100,837,475 |
| Expenditure in connection with hotels run . . . . . . . | 308,780 | 419,233 |
| Expenditure of steamer service . . | 6,114,311 | 7,035,920 |
| Hygiene and accidents . . . . | 6,040,131 | 6,181,748 |
| Expenditure of railway institutions . | 875,651 | 1,520,381 |
| Railway hospitals and medical service . | — | — |
| Pension fund . . . . . | 4,690,000 | 4,553,555 |
| Secret fund (for army mobilisation ?) . | 28,000 | 40,000 |
| Motor traffic . . . . . . | 520,234 | — |

The total of all receipts therefore was, in 1928–29, 529,256,480 yen, whilst the total of expenditure amounted to 300,707,785 yen. Gross profits accordingly amounted in the fiscal year 1928–29 to 228,548,695 yen, whilst in 1930–31 gross profits amounted to 173,316,232 yen only.

This profit was employed in the following manner :

|  | 1930–31. | 1928–29. |
|---|---|---|
|  | Yen. | Yen. |
| Cost of supervision of private railways | 586,879 | 474,805 |
| Contribution to cost of new work | 3,382,422 | 5,357,227 |
| Interest service | 86,241,915 | 80,542,777 |
| Subsidies given to railways owned by private companies | 7,499,934 | 6,298,172 |

Accordingly, the net profit amounted in 1928–29 to 135,875,714 yen, which is a very important amount, there being few railway companies in the world capable of showing an amount of profit comparable to it. With regard to the fiscal year 1929–30, the figures contained in the 1932 issue of the " Statesman's Year-book " permit us to calculate gross profits only, which amounted to 192,801,042 yen. An interesting report is found in the July 11th, 1932, issue of the *Japan Times* regarding the steadily decreasing net profits of the Japanese State Railways. According to this, net profits for the fiscal year 1929–30 amounted to 118,990,000 yen, those for the fiscal year 1930–31 fell to 75,587,000 yen, for the year 1931–32 to 68,450,000 yen, whilst for 1932–33 the probable amount of net profits is estimated at 41,072,000 yen only.

Passenger and goods traffic has been developing on the Japanese State Railways in a very satisfactory manner during the last years. (See also the Schedule on p. 65.) The return for passenger transport during the fiscal year 1928–29 was 849,264,044, an increase of 51,651,143, *i.e.*, of 6·5 per cent. over the preceding year. This figure is, however, an abnormal one, and may be attributed to the large number of national festivals, coronation festivities, etc., held during the year in question, owing to which passenger traffic was greatly increased. The quantity of goods transported was 78,506,849 tons, an increase of about one million tons, *i.e.*, of 1·4 per cent. over the fiscal year 1927–28. During the fiscal year 1929–30 the number of passengers carried was 862,939,432, whilst the quantity of goods transported was 76,008,685 tons. In 1930–31 the Japanese State Railways carried 824,152,589 passengers and 64,087,099 tons of goods.

The number of passenger-car kilometres covered during the fiscal year 1928–29 was 493,189,208, whilst that of passenger-train kilometres was 69,805,073, an increase in the case of the passenger-car kilometres of 5·7 per cent., and in the case of the passenger-train kilometres of 7·1 per cent., these increases being due to increased rolling stock, enabling a larger number of trains to be run. As mentioned above, the number of passengers transported was 849,264,044, *i.e.*, an average of 2,321,371 per day. The average length of travel per passenger was 15·8 miles, corresponding to an increase of about 1 per cent. as compared with conditions of the previous year.

The two main data of goods traffic in the fiscal year in question show a rising tendency. The number of goods-train kilometres covered was 35,437,647, whilst that of the freight-car kilometres was 1,266,620,026. Each goods train consisted on an average of 35·7 cars, representing a rather considerable increase (of 9 per cent.) as compared to conditions in the previous years. The quantity of goods transported was 78,506,849 million tons. This is a comparatively low figure, the reason for which will be discussed later when we deal with the question of competition between railways and steamships. The average quantity of goods transported per day is 215,087 tons. The quantity of goods transported shows an increase of 1·5 per cent. as compared with the preceding year. Average receipts of the railways from goods traffic were 2·08 sen per ton per mile.

As appears from the foregoing particulars, the financial results of the Japanese State Railways are most satisfactory.

One of the main principles of their business policy is to prevent the railways from getting into debt. Up to now these endeavours have been entirely successful. All new constructions as well as purchases of new equipment are exclusively made out of profits, whilst at the same time a substantial amount is carried forward each year to next year's account. The Japanese railways are sparing no effort to ensure up-to-date equipment and construction work capable of lasting many years. This is proved, among other ways, by the fact that bridges and tunnels are made from granite which is a very expensive material and specially used on American railways. It is for this reason, too, that the coaches are fitted with pneumatic brakes and that all-steel passenger cars are constructed.

The Japanese railways employ the greatest care in the maintenance of their rolling stock, as appears from the fact that the number of new cars and locomotives put in commission each year represents a very considerable percentage of the existing equipment. This is, of course, only possible with a railway administration so highly profitable as that of Japan.

The number of locomotives was on March 31st, 1931, 4,189, of which 4,088 were steam driven and 97 electrically driven. As compared to conditions in the previous year, the number of the steam locomotives has diminished by 34. Of the total of 4,088 steam locomotives, 2,696 were fitted with superheaters.

The number of passenger coaches was, at the end of March, 1931, 11,576, corresponding to a total number of seats of 675,559. Of these coaches, 8,493 were of the bogie type, 1,929 were eight-wheeled coaches, 1,128 electric motor coaches and 26 steam-operated rail coaches.

The number of freight cars amounted at the end of the fiscal year to 68,353 cars, having an aggregate carrying capacity of 896,266 tons. Of these, closed cars represented 36,544 (454,012 tons), 230 were tank coaches, 30,676 open coaches (439,482 tons), and 897 coaches for special purposes. The increase as compared to the previous year was 84 locomotives, 162 passenger, 93 electric and 1,186 freight cars. After deducting the number of cars put out of commission, the net increase of the rolling stock amounts to 967 vehicles.

The value of new equipment (air brakes purchased during the fiscal year 1928–29) for the existing rolling stock was 6,970,922 yen.

The Japanese railways possess 21 workshops equipped for manufacturing locomotives and railway equipment of the most up-to-date type, and capable of supplying all the requirements of the country in articles of this kind.

Owing to the character of the land (mountainous regions, possibility of earthquakes), railway substructures, as well as the superstructures, are very costly. The difference between different regions is very striking. Whilst in level regions the cost of railway construction amounts, on an average, to 70,000 yen per mile, this cost on some mountainous sections (for instance on the Chuo line) is as high as 250,000 yen per mile. Some of the railway bridges have cost as much as three million yen. The large number of tunnels and cuttings, as well as the necessity of constructing supporting walls in order to prevent the occurrence of landslides, combine to render the cost of construction of railway lines in Japan very high. The number of stations has during the fiscal year 1928–29 increased by twelve.

The main performance data of the rolling-stock should also be mentioned. The figure of steam-locomotive kilometres covered in 1928–29 was 184,809,397, in 1930–31, 191,968,482. The figure of electric-locomotive kilometres covered was in 1928–29, 4,428,916, in 1930–31, 3,728,915; the electric power used was, in 1928–29, 48,005,954 kilowatt-hours, representing a value of 1,511,104 yen, and in 1930–31, 39,490,614 kilowatt-hours, representing a value of 915,904 yen.

Like all modern large public and private enterprises, the Japanese railways possess a very important welfare organisation and maintain a number of institutions for protecting the health and improving the standard of life of their employees, and for safeguarding the life and health of the passengers.

The most important among these institutions are the railway hospitals and line ambulances. The purpose of these institutions is to provide medical aid in the case of railway accidents as well as medical treatment for the railway employees.* The number of hospitals maintained by the State Railways is at present six, including the Central Railway Hospital at Tokyo, which is the most up-to-date among all railway hospitals. In addition, the railways maintain four homes for patients in need of a rest cure and about 125 ambulances. The railway hospitals are also charged with the duty of subjecting the railway employees to annual medical examinations, including examination of the acuity of their sight and hearing, examination of the heart and of the condition of the nerves, etc., all of which examinations have proved indispensable in maintaining an efficient and up-to-date railway service.

A fund for insurance against railway accidents and for the payment of aid in case of illness was established in 1907. All employees are obliged to pay 6 per cent. of their emoluments into this fund, whilst the railways are contributing 5 per cent. Temporary employees do not share in the benefits offered by this accident insurance and sickness fund. In case of accidents or illness occurring during work, the accident insurance and sickness fund pays 50 to 60 per cent. of the medical expenses arising.

A pension fund enables employees who have performed fifteen years of active service to receive a pension amounting to 25 per cent. of their salary. After forty years of service the pension is 33⅓ per cent. of the salary. To persons leaving their post before the completion of fifteen years the amount actually paid by them into the pension fund is returned together with legal interest. In 1928 the receipts of the pension fund amounted to 19,451,232 yen.

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* Cases of illness contracted owing to accidents during travel (apoplectic fits due to extreme heat, injuries suffered in connection with railway accidents) are treated free of cost by the railway hospitals, which also play an important *rôle* in fighting the epidemics frequent in the Far East, as, for instance, typhoid fever, cholera, small-pox, meningitis cerebro-spinalis, kala-azar, richen ruber planus, etc.

Of other social welfare institutions, the Purchasing Society should be mentioned. This is organised on lines similar to those of Co-operative Societies. On the one hand, it purchases the goods produced by the employers and their families (agricultural products, products of domestic industries, etc.), and, on the other hand, it purchases at cheaper prices the main articles consumed by the railway employees.

There exists, in addition, a Loan Society, which in the case of the death of the head of the family lends money to the family at an interest of ½ per cent. per annum and also helps them to obtain work. Other welfare institutions we must mention are the Savings' Club, various rest homes and cultural clubs (reading club, school club, musical club), etc. A number of employees who are members of nationalist parties are organised into organisations for the maintenance of work : these organisations are used to maintain undisturbed operation of the railways and supervision of the railway lines in the case of war or internal disturbances.

The electrification of railways is a problem which in recent years has become of great interest for railway companies all the world over, chiefly in the mountainous regions of Europe and in North America. This problem is of particular importance for countries like Japan, where coal is scarce, but where, on the other hand, a great amount of water power is available owing to the rapid fall of rivers in the mountainous regions. To deal with the whole problem of railway electrification would transcend the scope of the present work. We must state, however, that up to now the results of the electrification of railways have in most cases fulfilled only a small part of the expectations.

Nevertheless, in view of the scarcity of coal in Japan, as well as of the ample amount of water power available in that country, and the excellent financial results of the railways, it has been decided to electrify the Japanese railway system. Up to now electrification has been completed in the Tokyo-Kobe section of the Tokaido main line and a number of smaller lines of local importance (as the "Tobu" line between Tokyo and Nikko, the Kobe-Arima-Takaradzuka line, etc.). The electrification of the Tokyo-Kobe section of the Tokaido line was completed in 1930. By June, 1929, 3,492 miles of railway lines had been electrified, but the greatest part of these (3,339 miles) were lines owned by private companies.

Electric power is supplied to the electrified lines by seven power stations and thirty substations. The quantity of electric power supplied was 55,222,653 kilowatt-hours. Substation expenses amounted to 975,065 yen, *i.e.*, to 0·017 yen per kilowatt-hour. The quantity of power generated by the substations was 207,595,173 kilowatt-hours; the cost of generating this power was 6,581,778 yen, *i.e.*, 0·032 yen per kilowatt-hour.

The tariff applying to passenger traffic on Japanese lines is of the "zone" type, the fare per mile being in the various classes 7·5, 4 and 2·5 sen per mile up to fifty miles. Between fifty and 1,000 miles, the tariff rate per mile gradually decreases: for a distance of 1,000 miles the rates only amount to 3 sen (first class), 2 sen (second class) and 1 sen (third class). On some of the lines a supplement is charged (as in Switzerland) for the use of express trains. The tariff rates for goods are different for various classes of goods, and include special export bonuses for certain goods on certain routes.

The most important business side-line of the Japanese State Railways is represented by the railway ferry-boat service and steamer service in connection with the railways.

Many shipping companies, and even some students of communication policy, are of the opinion that the practice of railway administrations working steamer lines constitutes unfair competition. This view can, perhaps, be supported in those cases where certain railway companies are maintaining long-distance maritime steamer service, for instance, the Canadian Pacific Railway Company, for this activity of theirs tends to become, and often has already become, their main branch of business. In this case, the reasons for the maintenance of steamer lines usually consist only in the desire to reap a profit from the operation of the latter, and this may be called unfair competition, just as the construction and operation of railway lines by shipping companies would probably be similarly criticised.

The situation is entirely different, on the other hand, in those cases where railway companies are maintaining ferry-boat lines and junction lines as an integral part of their own service to safeguard the travelling public as well as the goods transported from the extra cost which would arise if a separate shipping company were able to fix the price of transport on the shipping line connecting the two railway lines, and to simplify transport by enabling the carriage of passengers and goods over the whole distance to be covered to be effected within the same organisation. Such ferry-boat services are to be found in Europe as well; for instance, transit traffic from Germany to Scandinavia is maintained on the lines Warnemünde-Gjedser and Sassnitz-Trelleborg by the ferry-boats of the State Railways of Denmark and those of Sweden. The particular construction of the ferry-boats enables the railway carriages to be transported from the lines of one railway company to that of the other railway company.

The character of Japan as an island country, owing to which different railway systems were developed on the large islands, made it imperative, in order to offer the possibility of transit traffic and to facilitate it to the utmost extent, to create such ferry-boat and shipping lines. Besides, it is the shipping lines of this kind which render possible direct traffic between Japan and the continent of Asia. In this respect, transport conditions in

Japan very much resemble those in Denmark, where, also, the ferry-boat service is a very important branch; in fact, an integral part of the service of the State Railways (Warnemünde-Gjedser, Örehoved-Masnedö, Helsingör-Helsingborg, Copenhagen-Malmö, etc.). No doubt the ferry-boat and shipping lines of the Japanese State Railways greatly injure Japanese shipping, particularly coastal shipping, by their competition, but they are certainly useful to the travelling public and to the shippers of goods.

Ferry-boats are at present operating on the following lines:

1. The Aomori-Hakodate line. The ferry-boats on this line are able to handle 190 car-loads per day, and the goods traffic of the island of Hokkaido with the main island has greatly increased, thanks to the ferry-boat service.

2. The Shimonoseki-Moji line (see also p. 168), which is very important from the point of view of passenger traffic with the continent of Asia.

3. The Shimonoseki-Fushan (Korea) line, which possesses great international importance, connecting the main railway line of Japan—the Tokaido-Sanyo line—through the lines of the Korean, the South Manchurian and the Eastern Chinese railways with the Trans-Siberian Railway and thereby with Europe. This line being the main line of communication between Korea and the mother country, its goods traffic also is very important, whilst, at the same time, it is on this line that the greatest part of the passenger traffic to Korea and Northern Asia is handled.

4. The Uno-Takamatsu line crosses the Inner Sea of Japan, and connects the main railway line of Japan with the railway system of the island of Shikoku.

The total length of the shipping lines of the Japanese State Railways is 397 miles. In 1930–31, sixty-one steamers, representing a total tonnage of 49,842 register tons (thirty-two of which were ferry-boats) were operating on the lines.

The main data of the shipping service (for 1930–31) appear from the following schedule:

| | Osaka District. | Moji District. | Sapporo District. | Total. |
|---|---|---|---|---|
| Number of lines | 1 | 4 | 22 | 7 |
| Number of voyages made | 8,027 | 94,578 | 4,558 | 107,163 |
| Number of passengers transported | 712,900 | 5,407,168 | 910,588 | 7,030,656 |
| Receipts from the transport of passengers . . yen | 279,171 | 2,782,653 | 1,803,679 | 4,865,521 |
| Quantity of goods transported . . . tons | 140,306 | 1,758,401 | 813,801 | 2,712,508 |
| Receipts from goods traffic yen | 231,160 | 2,014,030 | 3,293,589 | 5,538,779 |

As appears from the above table, it is the Moji district which holds the first place as regards the number of passengers, as well as the quantity of goods transported. This is due to the fact that two most important ferry-boat lines, the Shimonoseki-Fushan and the Shimonoseki-Moji lines, over which great quantities of goods are transported and which also carry a considerable amount of passenger traffic, are both situated in this district.

As compared with the financial results for the year 1930, the receipts from ferry-boat service (goods traffic plus passenger traffic) have diminished by 10 per cent.

In addition to these regular lines, a few periodical lines and occasional services are also operating. These are, however, of minor importance and not amenable to any exact statistical enquiry.

Another important branch of business of the Japanese State Railways is the running of hotels and railway restaurants. Whilst the latter type of establishment exists in Europe as well, railway hotels are more typical of America (Canadian-Pacific hotels).

In Japan proper the State Railways possess hotels in Nara and in Shimonoseki. Since the competition of these hotels is disastrous to the hotel trade, their maintenance by the Japanese State Railways seems unreasonable, especially as the railways themselves make a good profit and do not derive any from these hotels. In fact, the latter are run at a slight loss (13,750 yen), the receipts in 1928 having been 339,829 yen, whilst the expenditure incurred was 353,579 yen.

One of the most pressing problems of communication policy at the present moment is the competition between the various means of transport. It is motor traffic particularly which has become a formidable rival of the railways, and has in the U.S.A. as well as in some countries of Europe (Great Britain, Germany, France, Holland, Belgium) brought the railways into a very serious pass, owing to the relatively low cost of motor transport, which offers greater facilities (transport from house to house, possibility of change of route), whilst sharing at the same time the advantages of railway transport (rapidity, safety, accuracy).* The competition with the railways of other means of locomotion is of minor importance, and is confined to special routes. In Japan, however, as will be seen later, the situation is somewhat different.

At present there is not as yet any question of competition of motor traffic with the railways. This is due, on the one hand, to the relatively small number of motor vehicles (see p. 233), and, on the other hand, to the absence of a properly constructed system of roads (see Chapter VIII of the present work), so that motor vehicles are unable seriously to compete with railways in Japan either in passenger traffic or in the transport of goods.

Later on, when the number of motor cars have sufficiently increased (it was during the last years only that the number of motor cars began to multiply at a more rapid rate) it will be passenger traffic in the first place which will feel the competition of motor vehicles, for the main part of the goods traffic will continue to be handled by ships, and owing to the configuration of the country (islands) the competition of motor car traffic will only be felt over small distances and in limited territories. The advantages of motor traffic in the transport of goods are mainly of two kinds. One is the possibility of transport from house to house, which railways are unable to provide, whilst the other is the possibility of more rapid transport of goods, motor traffic being able to avoid the loss of time due to the shunting of freight cars. Both these circumstances arise in Japan in limited and unconnected regions only, because the transport of goods from one island to another necessarily requires ships, and if the land transport of the goods were effected by means of motor vehicles, this still means that a transfer from motor to ship is necessary at the ports. Accordingly, no keen competition between railway and motor traffic is to be expected, whilst owing to the special conditions existing in Japan, both railway and motor traffic will be endangered by the competition of shipping.

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* With regard to the problem of competition between railway and motor traffic, see Dr. Ladislaus von Héder, " Die Konkurrenzfahigkeit der Kraftwagen und Kraftwagenlinien gegen Eisenbahn und Kleinbahn," Färmann Printing Works, Berlin, 1931.

It has already been mentioned before that, contrary to what is the case with railways of other countries, in Japan the receipts of the railways from goods traffic remain below those obtained from passenger traffic.

This appears to us to be caused by the fact that, owing to the geographical position of Japan, transit traffic, which is a main source of income of the railways of most countries, does not exist in the case of Japan, and that a very large part of the territory of the country can be reached by ships. Now maritime transport is always cheaper than railway transport, and even in those cases when combined transport partly by railway and partly by ships could be considered as an alternative for shipment by steamer throughout (for instance, when shipping goods from Tokyo to the island of Hokkaido), the latter alternative will always be found more advantageous, as it enables the cost and loss of time caused by transhipment from rail to steamer to be saved. More time is generally lost by transhipment than would be saved by the greater speed of rail transport on that part of the whole distance which could be thus covered.

Accordingly, traffic will in Japan generally gravitate towards the nearest port, whilst for long-distance traffic rail transport will be able to compete successfully with maritime transport on certain routes and for certain classes of goods only.

Maritime shipping, particularly the coastal trade, will therefore constitute an invincible rival to railway traffic, and it is only in passenger traffic that the latter will be able to compete successfully with the former. This situation between railways and shipping will, of course, be different where the shipping lines are owned by the Japanese State Railways, but such routes are very few.

Having given an account of the Japanese State Railways, we must also briefly mention railways owned by private companies. The importance of privately owned railways is not nearly so great as in some other countries (U.S.A., Great Britain and France), as there exist only companies of small importance, mostly running local lines. As mentioned before, the seventeen main private railway companies which formerly possessed a dominating position were in 1906–7 bought up by the Government.

The length of railways owned by private companies to-day is 7,018 kilometres, constructed at a cost of 924,849,420 yen. The number of lines worked by private companies is 262.

Supervision is exercised over the privately owned railways by the Private Railway Department of the Railway Ministry, to which the managements of the various railway companies are answerable, but only in certain respects. In view of the fact that local business interests are greatly advanced by the private local railways, the Japanese State Railways spend a considerable amount each year on subsidising private railways. (In 1928–29 these subsidies amounted to 6,298,172 yen, an increase of over one million yen on the preceding year.) The legal position of private railway companies is regulated by a special law, originally enacted in 1912; since then various modifications of this law have been passed: the last modification was enacted in 1917.

As compared to the State Railways, private railways are of slight importance only in Japan, as is shown by statistical data.

During the financial year 1928–29 Japanese private railways transported 366,277,597 passengers, the receipts amounting to 52,093,649 yen. In the year 1929–30 the number of passengers transported rose to 415,462,973. The average distance passengers were carried was 8·1 kilometres, the receipts per passenger per kilometre amounting to 1·8 sen.

The quantity of goods transported was 25,093,000 tons (in 1929–30, 26,049,400 tons), yielding receipts of 22,882,122 yen; the receipts per ton-kilometre were 4·3 sen.

The total capital invested in private railways amounts to 956,817,809 yen, of which 630,749,059 yen have been paid up. The cost of construction of the lines amounted to 626,882,902 yen, that of improvements to 352,947,794 yen.

The receipts of private railways amounted to 82,474,415 yen, the expenditure to 46,015,839 yen, the gross profit thus working out at 36,461,576 yen. To this should be added receipts from various other sources amounting to 30,289,834 yen, whilst in order to arrive at the figure of total net profit, 14,946,867 yen should be deducted for interest service and 3,159,333 yen for other services, so that the total net profits were 48,645,210 yen. In 1930–31 the receipts of private companies amounted to 87,917,092 yen, against which there was an expenditure of 52,563,832 yen.

The working profit represents 6·1 per cent. of the capital invested. Owing to increased motor bus traffic, the general business results of local railways has not been so favourable in late years as formerly. In order to fight this competition the railways are being gradually electrified, which assures more comfortable travel.

The rolling stock consisted at the beginning of the year 1931 of 976 locomotives (including 176 electric locomotives and one petrol locomotive), of 4,270 passenger coaches (containing 289,509 seats), and of 11,516 freight cars (with a total carrying capacity of 110,489 tons).

Whilst subjected to supervision by the Private Railway Department of the Railway Ministry, the private railways have their own managements. The number of persons employed was 44,532, their monthly salaries amounting to 2,539,717 yen.

The history of local railways (urban and suburban, tramways, etc.) in Japan begins in 1880, when the tramway of Tokyo was established.

In March, 1929, 155 urban and suburban railways were operating in the country, with a total length of lines of 2,718 kilometres. The capital invested in them was 2,257,081,979 yen. Urban and suburban railways may be classed, according to the various kinds of driving power employed, as follows :

| Driving power. | Number of railways. | Length of lines. | Capital. |
|---|---|---|---|
| | | Km. | Yen. |
| Electricity . . . . . | 80 | 867·34 | 70,020,000 |
| Steam . . . . . . | 8 | 68·86 | 670,000 |
| Petrol . . . . . . | 8 | 72·98 | 1,075,000 |
| Railways drawn by horses . | 9 | 151·66 | 1,010,000 |
| Railways driven by human power | 5 | 26·25 | 3,320,000 |

It is a proof of the continued development of local railways that in 1929 110 new lines, representing a total length of 1,180 kilometres, of such railways were under construction, in which a capital of 76,095,000 yen is being invested. In March, 1931, the total length of local railway lines already amounted to 270,685 kilometres, with a total invested capital of 2,222,569,841 yen. Further investments (to the extent of about 3,400,000 yen) are about to be effected.

Passenger and goods traffic was distributed over the various kinds of urban local railways as shown by the following schedule :

| Driving power. | Number of passengers transported. | Receipts from passenger traffic. | Goods transported | Receipts from goods traffic. |
|---|---|---|---|---|
| | | | Tons. | Yen. |
| Electricity . | 1,862,641,481 | 128,509,793 | 967,419 | 1,117,463 |
| Steam . . | 5,810,887 | 919,067 | 276,385 | 327,544 |
| Petrol . . | 2,877,981 | 429,566 | 385,000 | 524,224 |
| Horses . . | 624,636 | 83,156 | 98,725 | 181,970 |
| Human power . | 52,175 | 12,513 | 155,241 | 153,364 |

The rolling stock consisted at the end of March, 1929, of 219 locomotives (24 electric, 66 petrol and 129 steam locomotives), 6,942 passenger cars (containing 435,185 seats) and 2,088 freight cars. The number of employees amounted in the same year to 57,915, who were in receipt of monthly salaries amounting to 5,158,213 yen.

Local railways showed in 1930–31 total receipts amounting to 128,009,229 yen, as against which the total of working expenses was 77,222,809 yen, showing a balance of profit of 50,786,420 yen, representing a diminution of 15 per cent. as compared to that of the preceding year.

In the period (1927 to 1929) preceding the economic crisis local railways were able to show a very handsome increase of profits (2 to 3 per cent. per annum) over those of the preceding year. As soon as the crisis shows signs of passing, these favourable financial results may be expected to return, as the condition of the railways is such that no investments by which cost would be increased are necessary.

In the possessions outside Japan proper (Korea, Formosa, Sakhalin) the construction of railways is making rapid progress.* These railways are referred to in Japanese official publications as " Colonial Railways," although really there is no reason for calling them by this name, particularly the Korean railways, which are directly connected with the State Railways of the mother country by the ferry-boat line referred to on p. 81, and form an integral part of the railway system of Japan.

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* According to the 1932 edition of the " Statesman's Year-book," the latest figures concerning the (State and private) railways of Korea are as follows : The length of lines was in 1931 2,395 miles. The number of passengers transported, 20,650,000.

The history of the railways of Korea (Chosen) goes back to 1890, when a British company established a line of eighteen miles' length between Söul (Keijo) and Chemulpo (Jinsen). During the Russo-Japanese War the military movements of the Japanese army made it necessary to establish a military line at the place now occupied by the trunk line (Fushan-Keijo). This military line was later on reconstructed, and in 1906 the Japanese Government took possession of the Korean lines and continued to develop them. Thus at the end of 1930 there were 2,581 miles of State railways in Korea, representing an invested capital of 384 million yen. In 1932 the total length of all Korean railways (State and private) amounted to 4,950 miles and carried 19,673,000 passengers. According to the annual report of the Korean Resident-General, the length of lines and the development of passenger and goods traffic of the Korean State Railways showed the following figures :—

| Fiscal year. | Length of lines. | Number of passengers transported | Quantity of goods transported. | Receipts. |
|---|---|---|---|---|
| | | | Tons | Yen. |
| 1911 | 674 | 2,024,000 | 880,000 | 4,095,000 |
| 1920 | 1,157 | 12,421,000 | 3,186,000 | 23,816,000 |
| 1925 | 1,309 | 18,241,000 | 4,297,000 | 30,708,000 |
| 1928 | 1,546 | 22,285,000 | 5,887,000 | 58,479,000 |
| 1930 | — | 20,024,000 | 5,936,000 | 54,640,000 |

The amount of capital invested by the Japanese Government in the Korean railways is relatively high. The colonisation of the country as well as military considerations demanded that this country should be fitted with a modern railway system. This necessitated the investment of large amounts in railways each year. The figures of expenditure for construction and improvement during the last few years were as follows: In 1921, 18,287,157 yen; in 1925, 11,306,412 yen; in 1927, 19,899,699 yen; in 1928, 20,449,968 yen; and in 1930, 12,213,517 yen.

The receipts of the Korean railways show the following development during several years:

| Year. | Estimated receipts. | Actual receipts. |
|---|---|---|
| | Yen. | Yen. |
| 1921 | 26,393,812 | 28,109,695 |
| 1925 | 50,934,856 | 47,301,297 |
| 1927 | 53,483,952 | 57,284,571 |
| 1928 | 62,360,955 | 58,479,298 |
| 1930 | 73,418,000 | 54,640,000 |

During the last fiscal year, receipts amounted to 54,640,027 yen, as against which the working expenses were 44,673,648 yen, leaving a gross profit of 9,966,379 yen.* Adding the balance of profit brought over from the preceding year and deducting various smaller items of expense, there results a higher figure of net surplus, viz., 12,355,045 yen.

Great care is being bestowed on the rolling stock of the Korean railways, as, in case of war, it is primarily the freight cars and passenger coaches of the Korean railways which will ensure the carrying out of Japanese military operations.

The total number of locomotives was 334, including 101 tender locomotives and 31 narrow-gauge locomotives. The number of passenger coaches was 808, that of freight cars 3,632. As compared to the previous year (1927–28) the number of locomotives has increased by 3, that of freight cars by 110, whilst the number of passenger coaches has diminished by 9.

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* Receipts from passenger traffic were 17,710,978 yen, whilst those from goods traffic were 19,569,495 yen.

The more important items of expenditure in the fiscal year 1928–29 were as follows: sundry working expenses 6,041,788 yen, maintenance of rolling stock 3,866,889 yen, expenditure in connection with transport 71,597,771 yen, traffic expenses 5,532,315 yen.

Three railway workshops were operating in Korea in 1929, employing a total number of 1,789 workmen, whose yearly wages amounted to 1,163,000 yen.

The number of employees of the Korean State Railways was, in the fiscal year 1928–29, 15,640; their monthly wages amounting on an average to 1,017,017 yen. As compared to the preceding year, the number of employees was increased by 1,161 persons, the corresponding increase in the monthly wages being 53,251 yen.

The main financial results of the working of the Korean State Railways were as follows: Train-miles, 7,727,135; passenger-car miles, 32,756,090; freight-car miles, 59,315,386. The number of locomotive kilometres covered was 13,588,696·1 kilometres.*

Like the State Railways of the mother country, the Korean State Railways are, in addition to transport, engaged in two subsidiary enterprises, viz., the hotel trade and the warehousing trade.

The receipts of the Korean State Railways from hotels amounted in the fiscal year 1928–29 to 511,537 yen.

Warehouses were maintained in 558 places. In these 70,250 tons of goods were stored during the fiscal year, and yielded receipts amounting to 95,492 yen, an increase of 10 per cent. over the preceding year, although the quantity of goods showed a diminution of 20 per cent.

Particularly great advantages are offered by the Government for the establishment of private railways in Korea, namely, a particularly high rate of interest is assured to the constructors as well as to the bond-owners. Construction is, however, greatly influenced by strategical motives; thus, for instance, it is owing to considerations of this nature that the gauge to be employed (4 feet 8½ inches) is determined. The Government is endeavouring to promote enterprise in the construction of private railways by various regulations (uniting smaller companies into larger combinations, facilitating of bond issues, etc.).

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* It is inexplicable why official reports give the figures of working results in different systems of units. Whilst the performance of cars is published in miles, that of locomotives is published in kilometres. The use of these different systems of measurement is very confusing.

At the end of March, 1931, the length of private railway lines in Korea amounted to 1,072 kilometres, whilst 149 miles were under construction. The length of lines already planned was 142·8 miles, whilst a further 485 miles will be constructed at some later date. The total number of private railway companies operating is 8. In 1927 the private railways transported 4,063,000 passengers, whilst goods traffic amounted to 1,107,000 tons. Receipts from traffic amounted to 4,873,000 yen. The total cost of construction of the private railway lines amounted, according to the "Economic and Financial Annual of Japan," to 72 million yen. The Korean private railways are permitted by the Japanese Government to make use of the State railway stations.

The length of lines of the railways on the island of Formosa (Taiwan) is 549 lines, of which 440·4 are represented by the trunk line. Already, under Chinese rule, a railway was running on the island, but this was only a narrow-gauge line, and it was only when the island came under Japanese rule that the construction of railways was begun on a larger scale. Owing to the mountainous character of the island, railway construction was rather costly. The trunk line (between Takao and Keelung) cost 28 million yen and its construction required 19 years (from 1889 to 1908). A considerable part of the railways is managed by the State and is under the direct control of the Railway Bureau of the Colonial Government.* The railways of Formosa possess 3 repair shops. The staff numbers 3,096 persons, whilst the number of other employees is 6,518. The monthly salaries of all railway servants amount to 230,799 yen, corresponding to a monthly wage of 74·55 yen per employee.

The rolling stock consisted, at the end of 1929, of 204 locomotives, 459 passenger coaches and 3,511 freight cars, corresponding to 4·26 locomotives, 9·48 passenger coaches and 74·73 freight cars for each 10 miles of length

* The Railway Bureau comprises six departments.

worked. As compared to the figures for the fiscal year 1927–28, the number of locomotives had increased by 7, that of the freight cars by 302, whilst the number of passenger cars had diminished by 7.

The present stock of freight cars possesses a carrying capacity of 45,080 tons.

The financial position of the State Railways of Formosa in the fiscal year 1929–29 is shown by the following figures:

| | Yen. |
|---|---|
| Total receipts . . . . | 20,268,051 |
| Of this amount there was derived: | |
| From passenger traffic . . | 8,644,038 |
| From goods traffic . . | 11,431,088 |
| From other receipts . . | 192,933 |
| Refunded amounts . . | 403,702 |
| Net receipts. . . . | 19,864,349 |
| Total expenses. . . . | 10,641,957 * |

The balance represents a surplus of receipts of 2,222,393 yen. After deducting various expenses payable from profits, there remains a net annual profit of 8,119,907 yen, *i.e.*, the capital invested in the railways yields an income of 7·5 per cent., which, compared with the average rate of interest in the world in 1928–29, is a fairly high rate of profit.

The rate of profit has been increasing rapidly during the last years. In 1922 it amounted to 4·2 per cent., in 1924 to 5·2 per cent., in 1926 it reached the high figure of 8·1 per cent., whilst in 1927 it was 7·7 per cent. In the fiscal year 1930 receipts amounted to 19,647,257 yen, as against which expenses amounted to 11,443,090 yen.

Accordingly financial results are very satisfactory and showing a constant tendency to improve. The number of passengers carried was, in 1928–29, 20,668,289, the quantity of goods transported 4,948,730 tons. The number of train-miles covered was 89,328,420.

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* Of expenses, maintenance expenses amounted to 2,248,203 yen, working expenses to 2,545,739 yen, expenses in connection with rolling stock to 1,813,728 yen.

The private railways on the island of Formosa, which are mostly narrow-gauge, were originally constructed by a number of sugar factories for the transport of sugar, but in 1928–29 the quantity of goods transported on these lines, the length of which was 342·7 miles, was only 765,000 tons, whilst the number of passengers carried was 4,423,486, *i.e.*, passenger traffic was of greater importance on these lines than goods traffic. The total receipts were 8,803,500 yen. The rolling stock of private railways consisted of 234 locomotives, 265 passenger coaches and 14,441 freight cars. The cost of construction of the private railways amounted to about 32,165,000 yen.

In the southern part of the island of Sakhalin, belonging to Japan (Karafuto), the Japanese State Railways possess lines of a total length of 183 miles. The first railway was a strategical line of 26 miles in length. In 1928 the railways transported 1,580,684 passengers and 24,270,000 tons of goods. Passenger as well as goods traffic is increasing as compared to the preceding year. Expenditure (3,759,825 yen) is not covered entirely by receipts (3,732,406 yen). The rolling stock consists of 37 locomotives, 79 passenger coaches and 753 freight cars. It is particularly the number of freight cars which has increased considerably (by 182 in one year). The number of persons employed was 1,640, their monthly salaries amounting to about 113,000 yen.

On the island of Sakhalin two private railway companies of minor importance were also operating in 1928–29. The high prosperity and lucrativeness of the Japanese colonial railways are also evidence of the increasing economic importance and development of the colonies.

The insignificant deficit of the Sakhalin railways will no doubt be eliminated within a couple of years, and thus these railways, which represent the only section of Japanese railways still worked at a deficit, will likewise become profitable.

The value of the railways is obtained by capitalising their net annual profit at some average rate of interest.

We assess the latter at 4·5 per cent., which can be considered the average world rate of interest in the year 1924–25. The amounts of subsidies annually paid to private railways by the Japanese State Railways are also included in our calculations, because these amounts, whilst diminishing the net profits of the State Railways, are, on the other hand, increasing the profits of the other railways, and therefore cause no difference in the value of the totality of railways.

Accordingly the value of railways (not counting the railways of the island of Sakhalin, which are working at a deficit and are besides of a very minor importance) works out as follows:

| Value, calculated on the basis of profits, | Yen. |
|---|---|
| Of the Japanese State Railways | 3,057,203,565 |
| Of the Japanese private railways | 1,094,517,225 |
| Of the Japanese local railways | 1,365,240,465 |
| Of the Korean State Railways | 277,988,512 |
| Of the Korean private railways | 109,642,500 |
| Of the Formosa private railways | 207,503,842 |
| Of the Formosa State Railways | 198,078,750 |
| Total value of Japanese railways | 6,310,174,859 |

Of this amount, 5,515,961,255 yen represent the value of the railways of Japan proper (State Railways, private railways and local railways).

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# CHAPTER II

## RAILWAYS IN MANCHURIA.*

THE purpose of the present chapter is to give an idea of the main artery of communication of the independent republic of Manchuria, created in April, 1932 : of the so-called Manchurian railways, which for a long time have held a special international position. No doubt, the " independent republic of Manchuria " designates merely a transitory condition between the colonisation of Manchuria by Japan and its probable future definite annexation by that country.

In view of the fact that up to the present we do not possess exact information on the newly established republic of Manchuria, it is impossible to supply reliable data with regard to the railway system of this country alone. It is a fact that 57·8 per cent. of the Manchurian railway system constructed between 1918 and 1931 was constructed with the aid of Japanese capital, and only 40 per cent. with the aid of Chinese capital. In Manchuria proper there exists a railway system of about 6,400 kilometres in length, of which about 1,100 kilometres is represented by the South Manchurian Railway, to be described in detail in the present chapter. This line is, in fact, the main artery of communication of the new republic, and was already previous to that one of the most important routes of the Far East.

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* We devote this special chapter to the so-called South Manchurian line, the trunk line running along the territory of the independent republic of Manchuria, created by Japanese influence in consequence of the events which took place in the Far East in March, 1932. For many years past, the position of the South Manchurian Railway has been very vague, since, although it passed through territory which belonged, *de jure*, to China, it had always been under Japanese control and management, which situation resulted in a great deal of political dissension. Besides being owned by a private company, it cannot, of course, be counted either among Chinese or among Japanese State Railways.

This line was built by Russia for strategical reasons, and connects the Trans-Siberian Railway with Dairen, the geographical position of which port is more advantageous than that of Vladivostok.

It was by virtue of Section V of the Treaty of Peace concluded on September 5th, 1905, that the lines of the South Manchurian Railway (Changchun-Dairen–Port Arthur) were included in the sphere of interest of Japan, together with the coal mines which formerly belonged to the Chinese Eastern Railway.

The South Manchurian Railway Company was established by the Imperial Decree No. 142, dated June 7th, 1906.

At that time this railway was already of very great importance to Japan, and its importance has since then increased still further.

In the first place, it is of immeasurable advantage, from a strategical point of view, to Japan if she is able, in case of war, to locate the theatre of war in a region far from home, on the continent, near the South Manchurian Railway, on which the marshalling of the Japanese forces would take place. Of late years, however, the economic importance to Japan of the South Manchurian Railway has become paramount, so that its strategical importance now holds the second place only.

After the Russo-Japanese War, emigration from Japan assumed very large proportions, and particularly of late years emigration has been mainly directed to Manchuria, which to-day represents the only part of the world into which the immigration of Japanese is not restricted. (See p. 51.) One of the reasons of the importance of Manchuria for Japan consists, accordingly, in the fact that it represents a territory on which Japan is able to throw her excess population, which, owing to the small distance between this territory and the mother country, does not lose its connection with Japan proper, as is the case, for instance, with European emigrants who have emigrated to overseas countries. This is, however, not the only reason why Manchuria is important to Japan. Japan requires the raw materials, mostly of a mineral nature (coal, oil), produced by Manchuria, of which products there is a scarcity in Japan itself. Manchuria to-day is the largest exporter of soya beans among all countries of the world. In 1928 the value of the soya beans crop of Manchuria was 110,000,000 yen. According to the figures contained in the March, 1932, issue of the *Round Table*, the Japanese have up to now invested about 214,000,000 gold pounds in Manchuria. Great Britain is also interested indirectly in this investment through having granted loans to Japan to the extent of about £16,000,000.

Moreover Manchuria, with its population of nearly 30 millions, is a first class outlet for the products of Japanese industry, the problems of which have been mentioned repeatedly in the present work. (See pp. 42 and 351.) Accordingly, about 8 per cent. of Japanese exports, *i.e.*, exports representing a value of about £17,000,000, are at present directed to Manchuria. Since the establishment of the Independent State of Manchuria this figure has been substantially increased. The Chinese boycott against Japanese goods, as a result of which the Chinese market was lost to Japan, has caused the exports of Japan into Manchuria to increase.

The above facts make it evident that the line of the South Manchurian Railway, which runs the whole length of the territory, being connected through one of its branches with its natural port (Dairen) and through its other branch with Japan, possesses, in addition to its strategical importance, a very great economic importance as well.

The total length of the lines of the South Manchurian Railway Company amounted at the end of 1930 to 1,125 kilometres.* The railways are standard gauge

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* This is distributed among the various lines as follows: the trunk line (Dairen-Changchun) represents 719·1 kilometres, the Port-Arthur line 50·8 kilometres, the Yingkau line 22·4 kilometres, the small branch line leading to the

(4 feet 8½ inches). The trunk line (1,125 kilometres) was in 1915 made double track throughout its whole length, this measure having been rendered necessary—apart from the requirements of the intense traffic—by strategical considerations.

Particular care is taken to keep the rolling stock up to date, and accordingly it is to-day the South Manchurian Railway Company which, after the railways of British India, possesses the latest types of engines. In 1931 the rolling stock consisted of 466 locomotives, 554 passenger coaches, and 8,134 freight cars. The number of freight cars is thus about 68·35 per 10 kilometres of line.

The economic importance of the South Manchurian Railway is closely related to the economic importance of Manchuria generally. Whilst up to recent years Manchuria was mainly important as an agricultural country, producing large quantities of soya beans, wheat and vegetables, being thus able to support not only the immigrants from Japan but also a number of immigrants from China proper, it is to-day becoming more and more important to Japan owing to the gradually increasing development of its natural resources (oil, coal, etc.), of which Japan is in want. It is owing to this fact that recently the number of Japanese industrial enterprises in Manchuria has been on the increase. The reason for the establishment of these enterprises is that, on the one hand, they are situated at a small distance from the places where their raw materials are produced, and, on the other hand, they are nearer to the Chinese consumers, which facts result in a diminution of the cost of production, as well as of the cost of putting the products on the market. All these circumstances will most probably induce the railway company to increase soon its stock of freight cars.

The above is confirmed by the statistics of the goods

---

Yenta mines 15·6 kilometres, the Hunho-Yusuthai line 4·1 kilometres, the Fushun line 52·9 kilometres, and the Mukden-Antung line (the main line leading to Japan 260·2 kilometres.

traffic of the railway, which, in spite of the civil wars and other political disturbances which have been going on in Manchuria of late years, show a tendency to increase steadily.

| Year. | Length of lines. | Quantity of goods transported. | Receipts. | Receipts. | Receipts. |
|---|---|---|---|---|---|
| | Miles. | Tons. | Yen. | Per ton. | Per mile. |
| 1923 | 688·8 | 13,371,673 | 72,582,757 | — | — |
| 1924 | 694·8 | 14,588,437 | 77,019,368 | — | — |
| 1925 | 694·8 | 25,045,292 | 80,535,820 | 5·353 | 115,912 |
| 1926 | 690·8 | 16,535,194 | 89,513,059 | 5·413 | 129,047 |
| 1927 | 690·8 | 18,427,775 | 94,040,810 | 5·103 | 136,133 |
| 1928 | 690·8 | 19,323,549 | 97,738,147 | 5·058 | 141,485 |
| 1930 | 695·0 | 15,193,272 | 77,936,688 | 5·130 | — |

It appears from the above table that the total amount of receipts as well as that of receipts per mile are increasing, whilst receipts per ton of goods transported are slightly diminishing.

The two chief articles transported by the railway were soya beans (in 1928, 2,821,864 tons, representing 14·58 per cent. of the total quantity of goods transported) and coal (in 1928, 2,269,415 tons).

Passenger traffic on the South Manchurian Railway is relatively important in spite of the constantly recurring disturbances. The reason consists in the fact that this railway is a transit line of first-class importance and forms one of the links of the land route from Europe to the Far East. Its northern terminal point is connected by means of the Eastern Chinese Railway with the Russian Trans-Siberian Railway (see p. 329), whilst its southern terminal joins on direct to the Korean trunk line leading towards Fushan, the continuation of which last-named line on the Japanese islands themselves is the Tokaido line mentioned repeatedly. (See p. 65.) To all this must be added the local passenger traffic, increasing in proportion to the increasing economic importance of Manchuria (see table on page 102).

To all these receipts there must be added the receipts from various other sources (transport of luggage, use of sleeping cars, sales of food in railway restaurants), which in 1928 amounted to about 17,620,000 yen; in 1930 this declined to 13,928,000 yen.

It appears from the above schedules that the South Manchurian Railway is one of those few railway lines which are highly prosperous with regard to goods traffic as well as to passenger traffic. Although the railway was originally constructed for strategical purposes, it has developed into a first class, typical colonising railway, the operation of which is to-day based on the increasing goods traffic between Japan and Manchuria and on the way in which these two countries are economically supplementing each other. An important characteristic of this railway line is that it has made Dairen the main port for the export of the products of Manchuria. (56 per cent. of the total exports of Manchuria represent soya beans and their derivatives.) 58·5 per cent. of the total exports pass through the port of Dairen. (See in greater detail "Detailed Trade Return of Manchuria," 1928, Research Office of the South Manchuria Railway Company.)

| Year. | Length of lines. | Number of passengers transported. | Receipts. | Receipts per mile. |
|---|---|---|---|---|
| | Miles. | | Yen. | Yen |
| 1917 | 684·5 | 5,844,929 | 7,526,684 | — |
| 1923 | 678·7 | 8,762,862 | 12,151,533 | — |
| 1925 | 682·6 | 9,109,004 | 13,361,831 | 21,288 |
| 1927 | 682·6 | 8,263,089 | 14,784,269 | 23,591 |
| 1928 | 682·6 | 9,702,119 | 16,042,105 | 25,812 |
| 1930 | 695·0 | 8,115,808 | 10,223,602 | — |

On account of its importance, and the continual increase of its traffic, the railway has become a most lucrative enterprise.

The following will give an idea of the financial position of the South Manchurian Railway (on March 31st, 1931):

| | | | | | | |
|---|---|---|---|---|---|---|
| Share capital | 440,000,000 | yen | represented | by | 4,400,000 | shares. |
| Of this the Japanese Government owns | 220,000,000 | „ | „ | „ | 2,200,000 | „ |
| Other owners possess | 220,000,000 | „ | „ | „ | 4,000,000 | „ |
| Of these last-named shares, those paid up represent | 170,000,000 | „ | „ | „ | 3,400,000 | „ |
| Shares not yet paid up | 50,000,000 | „ | „ | „ | 1,000,000 | „ |

At the time when the company was established the amount of the share capital was fixed at 200 million yen, of which 100 million yen represents investment in the railway proper. (This includes the coal mines, as they are worked by the railway themselves.) This amount (100 million yen) has been placed at the disposal of the railway company by the Japanese Government. The other 100 million yen have been obtained by public subscription by the issue of debentures bringing in 6 per cent. interest, and guaranteed by the Japanese Government. The railway company is authorised by Government to pay to the debenture holders, in addition to interest at 6 per cent. per annum, a bonus amounting to 50 per cent. of the surplus available for distribution. The Japanese Government is not entitled to any bonus. In 1933 the railway has, consequent on events in Manchuria and the decline in value of the yen, raised its share capital to 800 million yen, 50 per cent. of which was subscribed by the new Manchurian Government (*Berliner Börsen-Courier*, 1933, February 3rd).

The business results for the year 1928 were as follows :

| | Yen |
|---|---|
| Receipts for passenger traffic | 17,619,293 |
| Receipts for goods traffic | 97,738,147 |
| Receipts from warehousing business | 185,142 |
| Other receipts (hotels, etc.) | 2,533,579 |
| Receipts from the traffic of the ports owned by the railway company | 500,933 |
| Receipts from the work of railway workshops | 61,955 |
| Total receipts | 118,639,090 |

As against these receipts the expenditure was as follows :

| | Yen. |
|---|---|
| Business expenses . . . . . . | 2,333,297 |
| Working expenses. . . . . . | 11,326,721 |
| Expenses in connection with rolling stock . | 9,214,155 |
| Traffic expenses . . . . . . | 6,817,023 |
| Expenses for the maintenance of lines . | 7,919,954 |
| Construction and maintenance of ports . | 344,165 |
| Sundry expenses . . . . . . | 6,402,750 |
| Total expenses . . . . | 44,358,065 |

Accordingly, gross profits for the year 1928–29 amounted to 74,281,025 yen, a very considerable sum. In 1931–32, under the influence of the economic crisis, these figures were of course altered. In 1932, according to the "Archiv für Eisenbahnwesen," 1933, Vol. 1, receipts amounted to 85,476,000 yen, as against which expenditure amounted to 37,290,000 yen. Profits accordingly amounted to 48,180,000 yen, which is still a very satisfactory result.

The favourable business result appears more remarkable still, if the main items of receipts and expenditure during the preceding year are examined :

| Year. | Receipts from passenger traffic. | Receipts from goods traffic. | Total receipts. | Total expenditure. |
|---|---|---|---|---|
| 1908 | 2,964,587 | 9,542,262 | 12,537,142 | 6,101,515* |
| 1915 | 4,842,338 | 17,260,655 | 23,532,118 | — |
| 1921 | 12,194,288 | 59,615,833 | 78,204,132 | 33,172,717 |
| 1927 | 16,102,953 | 94,040,819 | 113,244,180 | 45,235,835 |
| 1928 | 17,619,293 | 97,738,147 | 118,639,090 | 44,358,065 |
| 1930 | 11,461,175 | 77,936,688 | 95,330,730 | 36,768,576 |

Only the two main sources of revenue (goods and passenger traffic) have been specified in the above table, the rest of the total income was derived from other sources.

* This figure relates to 1907.

The examination of the above figures shows that of late years receipts from goods traffic have increased at a relatively higher rate than receipts from passenger traffic. In view of the fact that there is no transit traffic on these lines (owing to the fact that the Russian railways do not undertake the transport of transit goods, on p. 331), the above fact reflects the increased agricultural and industrial utilisation of the territory in question.

As compared to the rapid rise of receipts, the rise of expenditure is far less rapid, as it is only working expenses which are increasing in proportion with the increased volume of traffic, and these are, of course, amply repaid by the increase in receipts from increased traffic.

Traffic data for 1930 show that the total number of train-miles covered was 11,841,338, of which freight train-miles accounted for 6,742,103, whilst passenger train-miles covered accounted for 4,769,142. The remaining quantity of train-miles represents mixed trains and trains of a special nature. A passenger train consisted on the average of 7 cars, a freight train of 9·2 cars.

The staff consisted in 1931 of about 7,900 regular and 3,156 temporary officials. The number of other employees (technical personnel) was 34,255, of which 12,117 were Chinese. (See " Annual Report of the Department of Railways," 1931. Appendix: South Manchurian Railway.)

We must add a few remarks on the tariffs and on the management of the company. (The present tariff came into force in April, 1930.)

The passenger tariff is based on a flat rate (first class, 4·4 sen ; second class, 2·8 sen ; and third class, 1·55 sen per kilometre), to which a supplement is added for the use of express trains.

The goods' tariff is at present based on the tariff book issued in 1919, which represents a 40 per cent. increase of the rates as compared to those contained in the previous tariff. The tariff is based on a combined weight and volume system (this is easily understood if it is considered that the main kinds of goods carried are coal and soya beans). Goods are grouped into four classes :

Tariff for carload consignments per metric ton per kilometre.

| | 1–150 km. | 151–300 km. | 301–600 km. | above 601 km. |
|---|---|---|---|---|
| | Sen. | Sen. | Sen. | Sen. |
| First class . . | 4,300 | 4,125 | 3,950 | 3,775 |
| Second class . . | 3,440 | 3,300 | 3,160 | 3,020 |
| Third class . . | 2,580 | 2,475 | 2,370 | 3,265 |
| Fourth class . . | 1,720 | 1,620 | 1,580 | 1,510 |

It appears from this table that the new tariff provides gradually diminishing rates for long distances.

Although nominally the South Manchurian Railway Company is a limited company, it is, nevertheless, under the control of the Japanese Government, owing to the fact that the latter holds 50 per cent. of the shares and owing to the *rôle* that Government has played in the establishment of the railway. Of late years Japan has repeatedly interfered with the affairs of Manchuria, under the pretext of safeguarding the South Manchurian Railway. The events which took place in the spring of 1932, viz., the murder of Colonel Nakamura, the consequent Japanese expedition into Manchuria and Shanghai, and in due course the establishment of the so-called Independent Republic of Manchuria, were the consequence of such interference.

The railway is managed by a board consisting of a chairman, a vice-chairman and four directors, the election of whom is subject to the approval of the Japanese Government.

The sphere of interest of the South Manchurian Railway extends, in addition to the railway proper, to a number of large factories and coal mines, ports, a number of cargo boat lines, electric power stations and gasworks, as well as—in accordance with the American system—to various railway hotels. Recently a steelworks of some importance has also been included. As these branches of business are outside the sphere of communication policy proper, we refrain from describing them in detail.

At this point we must also mention the *Eastern Chinese* Railway, which is partly under Chinese and partly under Russian management. This railway is directly connected with the South Manchurian Railway, and was originally constructed as a line parallel to the so-called Amur section of the Trans-Siberian Railway in order to ensure a shorter connection with Vladivostok.* Its length of line is 1,734 kilometres. Since the year 1922 the receipts of this railway show a tendency to increase.† At the same time, expenses per ton-kilometre have diminished. In 1926 the railway already showed a surplus of receipts of 19,700,000 gold roubles (1 gold rouble = about $0·50), but recently it is reported that, owing to the unrest in Manchuria, the railway has financial difficulties to contend with. (See the issue of January 21st, 1931, of the periodical *Verkehrstechnische Woche*.) According to the 1930 edition of the "Statesman's Year-book," the railway was in 1928 transporting 5,147,215 passengers as compared to 4,532,000 in the preceding year. Goods traffic in 1928 amounted to 5,448,558 tons as compared to 4,898,885 in 1927. The rolling stock of the railway consisted, at the end of 1928, of 509 locomotives, 714 passenger coaches and 11,623 freight cars. The working receipts amounted to 59,795,797 gold roubles, as against working expenses of 40,108,465 gold roubles. The gauge of the railway is 5 feet (1,532 millimetres), like that of the Russian railways.

In consequence of the 'events' in Manchuria, the Manchurian State Railways were constituted in the fiscal year 1932–33. The Manchurian lines of the former Chinese State Railways are also now managed by the M.S.R. The length of the lines of the M.S.R. is 3,450 kilometres. (The S.M.R. and the North Manchurian Railway are independent of the S.M.R.) The length of the N.M.R. is 1,850 kilometres. The results of the first fiscal year of the M.S.R. are the following :

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* The question of the management of this railway is regulated by the Chinese-Russian agreements dated October 2nd, 1921, and May 31st, 1924.

† Exact figures are not available. The descriptive pamphlets issued by the Soviet Government serve purposes of propaganda and their reliability is open to doubt.

| Line. | Km. | Cost of Construction. | Receipts. | Expenditure. |
|---|---|---|---|---|
| | | | (1,000 silver $.) | |
| Changchun-Kirin-Tunghua . | 340 | 33,967 | 5,167 | 4,263 |
| Suppingkai-Taonan . . | 438 | 25,000 | 8,100 | 6,000 |
| Taonan-Anganchi . . | 225 | 12,600 | 4,425 | 2,529 |
| Tsitsikar-Ko-San . . | 212 | 8,910 | 2,825 | 1,370 |
| Taonan-Solun . . . | 84 | 470 | 65 | 80 |
| Hulan-Hailun . . . | 221 | 12,000 | 4,471 | 3,030 |
| Mukden-Kirin . . . | 503 | 41,500 | 11,395 | 6,380 |
| Mukden-Sanghaikvan . . | 1,427 | 48,430 | 10,362 | 7,875 |
| Total . . . | 3,450 | 182,877 | 46,810 | 31,527 |

The total net receipts of the system of the Manchurian Railways in the fiscal year 1931–32 amounted to 15,298,000 silver dollars.

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# CHAPTER III

## THE RAILWAYS OF CHINA *

THE history of the establishment of the Chinese railways, as well as of the present problems of the Chinese railways, form one of the most interesting chapters in the history of communication policy. The influence exercised by special political and economic factors have turned the question of railways in China into a set of most interesting problems. The main conclusion to be drawn from an investigation of these problems is that whilst under normal circumstances the Chinese railways might be counted among the most profitable railways of the world, external influences (civil war, conditions of capital, etc.) have placed them to-day among those railways which have the most difficult struggle for existence.

In order to give the reader a better grasp of the subject, we state below the headings under which Chinese railways and the problems inseparably connected with them will be treated :

1. History of the railways of China : (*a*) The reasons which justified the construction of railways in China, and the economic basis on which Chinese railways rest ; (*b*) Economic and political influences in the construction of the Chinese railways ; (*c*) Distribution of the construction and financing of railways over the various States ; (*d*) The

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* The hostilities prevailing in various parts of China from 1931 onwards, as well as the fact that, with regard to some territories it is still unsettled whether they are under Chinese rule or not, has made it very difficult to publish the latest data, as these are for the most part not obtainable. Accordingly, figures published in this Section are up to 1930 only, and we have avoided, as far as possible, formulating a definite view on questions which have not yet been cleared up.

establishment of the Chinese State Railways (purchase of railways by the State).

2. The general situation of railways in China: (*a*) Length of lines of the railways of China; (*b*) Permanent way and superstructures. Other equipment; (*c*) Rolling stock; (*d*) Receipts and expenditure; (*e*) Question of the interest service (indebtedness).

3. The present State Railways of China: (*a*) Classification of the railways of China, according to regions and to their economic importance; (*b*) Proposed new railway lines and their significance.

4. Detailed description of the more important railway lines of China: (*a*) Their economic importance; (*b*) Course of tracks; (*c*) Construction data (company which constructed them, cost of construction, length of line); (*d*) Regular services; (*e*) Passenger tariffs.

5. Management of the Chinese railways.

6. Obstacles in the way of the development of Chinese railways: (*a*) The attitude of the public; (*b*) Civil wars; (*c*) Question of capital.

7. Questions of competition: (*a*) Competition between the Chinese railways and motor traffic; (*b*) Competition between the railways and the coasting trade; (*c*) Competition between the railways and shipping on inland waterways.

8. Necessity for the extension of the railways: (*a*) Organised efforts to make China participate in the world's commerce; (*b*) Necessity for the economic development of China.

To enable the problems to be dealt with in this chapter to be elucidated by means of statistical data, there is shown on p. 129 a table giving the statistics of the financial and traffic conditions of the Chinese railways.

During the second half of the last century the capitalist order of world economy reached the peak of its development. Certain events have greatly improved the lucrativeness of European and North American industry, and consequently of that of large banking institutions. One of the most important of these circumstances was that, owing to the intense colonising activity of the various countries, European and American industry not only acquired new markets for the sale of their products, but also new raw materials, which offered the possibility of creating new industries. Whilst up to about 1850 China and Japan were, so to speak, completely closed to European commerce and industry, and other large consuming markets which since then have acquired a very considerable importance (South America, Australia and Africa) did not figure as purchasers at all, or only to a slight extent, these territories now, thanks to colonising activity, already represent consuming markets of great importance. The conquest of these markets was the work of the second half of the last century.

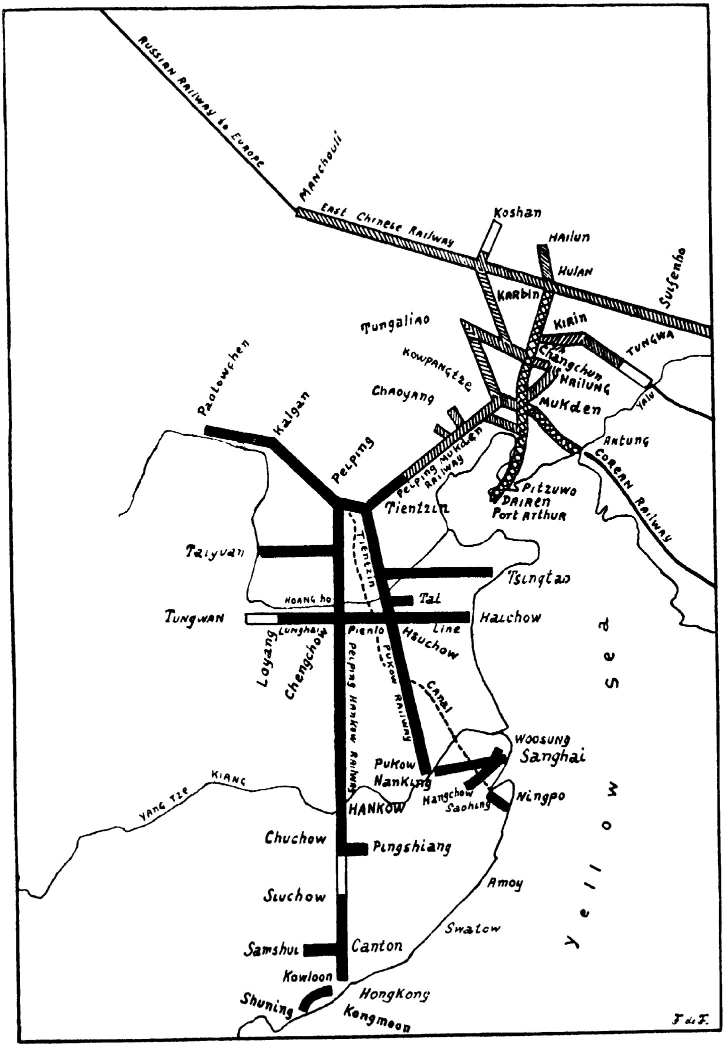
Of the various territories which have thus been gradually made to participate in the world's trade, the opening up of the Far East, and particularly of China, practically coincides with the opening of the Suez Canal, which rendered traffic between Europe and the Far East substantially easier and cheaper. (See p. 307.) China offered enormous prospects as a market where the industrial products of the rapidly industrialised countries of Europe and America could be sold, and where raw materials could be purchased. The industry and commerce of practically all countries were highly interested in the market of China, as well as in that of Japan, whose own industry had not yet begun to develop at that time. Every country wanted to participate in the economic opening up of China.

It was due to these circumstances that, from the first, the policy of the Great Powers towards China and in China was that of the open door: this policy was newly regulated at the Conference held in Washington in 1921–22, without being essentially changed. It is a consequence of the policy of the open door that, although in China, as has been shown, competition between the various Great Powers is very keen, practically every Power has obtained recognition of its right to take part, by peaceful means, in the colonisation of China. Thus China has become the common expansion ground of the Europeanised countries of North America and Japan; and although there have often been conflicting interests, only once have hostilities over the possession of China broken out, viz., the Russo-Japanese War.

The most effective way of colonising any territory is to construct railways which bring the various regions nearer to the bases of the colonisation (in the case of China it was the larger ports which represented these starting points), so that trade in goods increases and various new areas of consumption and production are opened up. Accordingly, from the last years of the nineteenth century up to the outbreak of the World War the construction of railways was undertaken in a very energetic manner by the various countries. Whilst the railways in Central and Southern China were, for the most part, made for economic purposes, the construction of railways by Russia and Japan in Northern China had rather political and, consequently, strategical ends; this fact is generally known and need not be discussed in further detail. According to the plans made, Chinese railways promised to be highly lucrative, and therefore represented at the beginning of the present century a particularly favourable investment for foreign capital.

The railway policy of foreign countries brought little in the way of results at first. The Chinese people looked on railway construction with an inimical eye, and usually systematically destroyed the lines that had been constructed. Of this point more will be said later. At the end of the last century the Chinese themselves promoted a company which was subsidised by the Government, and which had the right to construct, among others, the line between Taku and Tientsin. This line was opened in 1888 and was extended to Peking in 1897. The capital required for the construction of the railway was at that time still provided by the Government. Encouraged by their initial success, the Chinese Government decided to develop the railway system of China by means of Chinese

# THE COMMUNICATIONS OF CHINA



■ Chinese State Railways

▭ Railways under Construction

▨ Railways in Jehol and Manchouria

⊠ South Manchouria Railway

— Foreign Railway Lines

*To face p* 113

capital, making use of Chinese raw materials and Chinese labour. Rail and waggon works were established at a cost of more than £1,000,000, but it turned out that the cost of making rails was three times the cost of the manufacture of rails in Europe or U.S.A.

It was at this time that the *rôle* of foreign capital in the field of railway construction in China began. The Chinese hoped, at first, that they would be able to control their railways themselves, but soon had to give up this illusion. By bringing diplomatic pressure to bear, the Russian, British and other European Governments forced China to cede the control of the various lines to the firms constructing them. This action had, mainly on the part of the Russians, strategical motives.

The table on page 114 should give an idea of railway construction in China up to 1908, and of the way in which the various schemes were financed.

As compared with the above, the number of railways built by purely Chinese capital was—at the end of 1908—much smaller, viz.:

| | Proposed. Miles. | Actually operated. Miles. |
|---|---|---|
| Canton-Wuchang line . | 620 | 65 |
| Piang-Siang-Siang-ho line . | 56 | 56 |
| Swatow-Chauchau line . | 32 | 32 |
| Nanchang-Kiukiang line . | 95 | — |

Naturally the foreign companies responsible for the construction of the railways tried to obtain the highest figures of receipts possible, which often led to interest rate being fixed at very high figures (8–5 per cent.). In what follows, we shall frequently mention the interest charges deriving from construction by foreign companies, to which charges the Chinese railways are subject. On the other hand, if it is remembered how popular feeling in China was directed against railways at the time when the railways of China were constructed, which feeling often found a vent in the destruction of permanent ways and superstructures, the high rates of interest may appear to have been justified, as being intended to counter-balance the heavy risk to which the capital invested in the railways was exposed.

Naturally, the endeavours of the Chinese Government have always been directed towards purchasing as soon as possible the railways held by foreign capitalists, or bringing them under the Government's own management. In

| Name of the railway company and of the country at whose initiative the line was constructed. | Length of line. | |
|---|---|---|
| | Proposed. | Actually operated. |
| | Miles. | Miles. |
| Eastern Chinese railway : | | |
| From the Manchurian frontier to Dalny* (Russian-Japanese) | — | 1,180 |
| Charbin-Suifenho line (Russian) | — | 462 |
| Total | — | 1,642 |
| Imperial Railways of North China (British engineers ; debentures are partly held by British capitalists) : | | |
| Peking-Newchang-Mukden line | — | 600 |
| Peking-Kalgan line (actually constructed up to Pataling) | 140 | 45 |
| Peking-Hankow | — | 754 |
| Total | 140 | 1,399 |
| Line constructed by Belgian engineers and by means of Belgian capital : | | |
| Kai-feng—Honan-fu | 136 | — |
| Constructed by the Russo-Chinese Bank : | | |
| Cheng-ting–Taiyuan line | 170 | 170 |
| Imperial Shantung Railway (German capital and German engineers) : | | |
| Tsingtau-Tsinanfu line | 247 | 247 |
| Constructed with the aid of British and German capital : | | |
| Tientsin-Pukow line | 725 | — |
| Peking Syndicate (British capital) : | | |
| Taku-Sanshi | 90 | 90 |
| British-Chinese Company (British capital and British engineers) : | | |
| Shanghai-Woosung | — | 12 |
| Shanghai-Nanking | — | 192 |
| Shanghai-Ningpo | 190 | — |
| Canton-Kowloon | 102 | — |
| French capital and French engineers : | | |
| Laokai-Yunanfu | 275 | 60 |

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* At present this line is known as the South Manchurian Railway.

the case of some lines constructed, an agreement was concluded at the time of construction to the effect that after the lapse of a certain time the railway would become the property of the State of China. In addition, as far as the financial situation permitted it, the Chinese Government also purchased various lines. The State Railways of China have accordingly come into existence by a gradual process, the railways constructed by foreign companies having gradually become the property of the State of China through devolution or purchase, and having been united under a common management and under the name of Chinese Imperial Railways or, later, Chinese State Railways. The length of the railways of China in 1927 was:

| Name of line. | Length of line. Kilometres |
|---|---|
| Peking-Hankow | 1,728 |
| Peking-Mukden | 1,717 |
| Peking-Suiyüan | 1,133 |
| Tientsin-Pukow | 1,372 |
| Nanking-Shanghai | 417 |
| Shanghai-Hangchow-Ningpo | 353 |
| Chengting-Taiyüan | 351 |
| Takow-Chinghua | 184 |
| Kirin-Chongchun | 163 |
| Canton-Kowloon | 164 |
| Hupeh-Kunan | 467 |
| Supingkai-Taonanfu | 503 |
| Kiochow-Tsinan | 643 |
| Nanchang-Kiukiang | 141 |

In the schedule contained in fascicle 1 of the 1932 volume of the "Archiv für Eisenbahnwesen," all the railway lines enumerated above are mentioned as forming part of the Chinese State Railways, with the single exception of the Nanchang-Kiukiang Railway, which is only managed by the State. In the year 1932 the length of the Chinese railways was 15,000 kilometres.* This figure, however, includes private railways.

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* In order to enable a comparison to be made we must mention that according to the above figure, the rate of railway line length per 100 km. was 0·1 kilo-

Of the total railway system only 153 kilometres is a double-track line; most of this length represents various sections of the Peking-Mukden railway line.*

Whilst the present work was in preparation the Independent Republic of Manchuria was proclaimed under the auspices of Japan. The position of this republic from the point of view of international law is still vague. As no data are available as yet as to the area and population of this country, we are unable to discuss comprehensively the railway system of this independent republic (which will, however, probably come under Japanese influence), but deal merely with the railway lines running over this territory (partly in the preceding and partly in the present chapter).

The condition of the permanent way and superstructures of the State Railways of China is as bad as possible. The financial situation of the railways—which will be discussed later on—has not permitted even the most important replacements and improvements to be systematically effected.

Since their construction, practically nothing has been done on the Chinese railways in the way of maintenance (see *Verkehrstechnische Woche*, twenty-fifth yearly volume, fascicle 3). With the exception of a few recently built modern lines, the rails continue to repose on half-rotten wooden sleepers. The greater part of the rails are still the same as laid ten or twenty years ago: 70 to 80 per cent. of the rails, and particularly of the sleepers, already need to be replaced by new ones. The steel bridges, as originally constructed, no longer fulfil their purpose, since express train locomotives of a heavier type have been placed into service. Rolling stock, waggons, as well as locomotives, are of a superannuated type.

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metre, as compared with 36·5 in Belgium, 10·3 in Hungary, 12·5 in Germany, 9·7 in England and 4·3 in the U.S.A. (including Alaska). The rate of railway line length per 10,000 inhabitants is, in China 0·3, in Belgium 14, in Sweden 27·4, in Hungary 11·2, in Great Britain 7·5 and in the U.S.A. nearly 40 kilometres. (See "Statistisches Jahrbuch für das deutsche Reich," 1931.)

* See "Archiv für Eisenbahnwesen," 1932. Fascicle 1. Dr. Wehde-Textor, "Die Chinesischen Eisenbahnen im Jahre 1927."

According to an estimate by J. Mantell, reorganisation and replacement of material would require a sum of 76,850,000 Mexican dollars. This amount would have to be divided among the various kinds of equipment in the following manner :

| | Mexican Dollars. |
|---|---|
| Superstructures | 48,633,000 |
| Bridges | 4,135,000 |
| Freight cars | 15,024,000 |
| Passenger coaches | 926,000 |
| Locomotives | 5,757,000 |
| Equipment of repair shops | 2,375,000 |

Of all equipment owned by the Chinese railways, it is rolling stock (locomotives, passenger coaches, freight cars and special cars) which has suffered most during the civil wars. The neglected condition of the freight cars (insufficiency of brake equipment) induces merchants to send their goods by the less risky waterway (mainly on coasting boats, see p. 178), and thus the Chinese railways lose a part of the income that would otherwise accrue to them.

The superannuated character and dirtiness of the furniture and equipment of the passenger coaches also incline travellers to prefer travelling by boat.

The condition of the locomotives also leaves very much to be desired. On some lines nearly 60 per cent. of the locomotives were unfit for service in 1930. This condition of the locomotives, which is gradually rendering them incapable of dealing with the traffic, combined with the neglected condition of the permanent way, results in the trains running at very low speeds, and often with many hours' delay even on the main lines.

The equipment of the car and locomotive repair shops required for the maintenance of the railway service is very imperfect. An important repair shop of this kind (the workshop of the North-Eastern University at Mukden) is now passing into the hands of the Independent Republic of Manchuria.

Unless a speedy reorganisation is effected, the further rapidly increasing deterioration of these conditions must be expected.

It is easily understood that further deterioration of the material will greatly increase the cost of repair and diminish the profit-bearing capacity of the railways. It is therefore of vital importance for the Chinese railways that their reorganisation be effected at once in order to avoid more serious cost.

It is said that in 1930 considerable amounts were spent in the re-conditioning of those lines which suffered most from the civil war (Peking-Hankow, Tientsin-Pukow, etc.). These reports require still to be confirmed. (See *Verkehrstechnische Woche*, twenty-seventh year, No. 3.)

The main obstacle to the prosperity of the Chinese railways is their extraordinary degree of indebtedness, owing to which a large part of receipts is spent on interest service, and accordingly the purchase of new productive equipment becomes impossible (this appears from Group II of the schedule published on p. 129). In that schedule the enormous interest charged is shown under the heading of capital service, owing to which charges a number of railway lines, which would otherwise prosper, are working at a deficit (*e.g.*, the Peiping-Hankow Railway). It is this fact which also explains the neglected condition of the permanent way, superstructures and rolling stock of the Chinese railways. (See p. 116.) The difficult financial situation makes it impossible to replace the equipment and to cover the cost of repairs, whilst, on the other hand, the increasingly neglected condition of the railways exerts a very great unfavourable influence on their output capacity and therefore on their profit-earning power. The result is thus a very dangerous vicious circle.

The very severe indebtedness of the Chinese railways appears clearly from the report on Chinese railways of the Kemmerer Commission, a commission of experts appointed at the end of 1929 to enquire into the financial conditions of China. According to this report, the debts of the Chinese railways (including interest outstanding and such part of the debt of the Ministry of Communications as has been transferred to the railways) amounted on December 31st, 1929, to 637,073,063 Mexican dollars.

According to the report of this commission of experts, it is from a consolidation of internal conditions in the first place that an increase of the traffic and receipts of the Chinese railways, and thus, indirectly, an improvement of the whole situation may be expected. The experts also declare that it is necessary that certain indispensable items of work of improvement, amounting to 62 million Mexican dollars, should be carried out without delay. This amount would have to be expended in three equal parts during three years. The report suggests that for this purpose the British part of the Boxer indemnity should be employed, from which indemnity the construction of the Hankow-Canton Railway should, by the way, also be financed. The June, 1931, number of the *Round Table* estimates the British part of the Boxer indemnity proposed by the Boxer Indemnity Conference held in April, 1931, to be used for the reorganisation of the Chinese railways at £3,000,000. It is proposed that a further part of the necessary amount should be taken from the proceeds of a new loan to be raised for this purpose (probably the raising of such a loan will be rather difficult), in addition to which the revenue from Marine Customs may also have to be drawn upon.

Among the expenses of the Chinese railways, the amounts paid for the military force employed for guarding the lines represents a very important item. According to Mantel, 2·3 soldier guards are employed per kilometre on the Chinese railways. The expense of the administration of the Chinese railways is increased by the disproportionately large numbers of the office staff, and the relatively low amount of work done by the staff, a phenomenon noticeable in nearly all the countries of the East. Rationalisation, which is at present one of the most important problems for nearly all railways, is practically unknown in the Chinese railway service. Thus the waste of coal, due to its being handled by unskilled employees and to the lack of control, is estimated by Mantel to amount to 2,150,000 Mexican dollars per annum.

All these circumstances influence the position of the Chinese State Railways in a very unfavourable manner. Unless within the near future the increase of receipts and energetic rationalisation succeed in balancing the growing interest charges, the situation of the Chinese railways may justly give rise to grave fears.

Schedule No. II of the statistical tables on p. 129 contains the figures of the interest service of the Chinese railways, and gives, at the same time, a good idea of the financial situation in general.

It appears clearly from this schedule that the gross financial results of the Chinese State Railways show a definite surplus, and it is only by the interest charges payable from this surplus that the balance is turned into an adverse one. For instance, during 1926, interest charges exceeded the gross surplus and an interest balance has therefore remained outstanding, which had to be distributed over subsequent years, thus decreasing the profit of operation during these latter years. We publish below, by way of typical examples, the balance sheets of the Chinese railways for 1926 and 1927, from which it appears that, whilst the Chinese railways are really operating successfully under difficult circumstances, they nevertheless are working at a deficit, which, however, is not due to traffic and operation, but to outside causes.

| | 1926. | 1927. |
|---|---|---|
| | Mexican dollars. | Mexican dollars |
| Grand total of working receipts | 92,161,445 | 99,506,662 |
| Grand total of expenses | 65,934,849 | 66,950,796 |
| Gross surplus | 26,226,595 | 32,545,866 |
| Interest charges | 26,554,975 | 28,499,332 |
| Net business result | — 328,379 | —4,045,533 |

The Chinese State Railways of the present day may be divided into three main groups. These three groups do not form a connected system, partly owing to the absence of a bridge over the Yangtze-kiang and partly owing to the way each line has been planned, only separate sections having been constructed up to now. The three main groups are the following :

1. The Chinese North-Eastern Railways leading from Peking to Manchuria.
2. The trunk lines leading from Peking southward to the Yangtze-kiang, together with the branch lines connecting these trunk lines ; and
3. The lines of smaller length, operating in sections only, south of the Yangtze-kiang.

Of these groups the economic importance of the first two is incomparably greater than that of the third one, for the lines of the two former groups cross those parts of China which are the most important from an economic point of view and touch the most important cities. The lines south of the Yangtze-kiang are of a minor importance from an economic point of view, chiefly because they do not form a connected system and therefore possess local importance only.

Sun-Yat-Sen, one of the greatest statesmen of modern China, worked out a huge scheme for the organisation of China as an industrial country. This scheme, however, does not take practical difficulties into sufficient account, and accordingly only a small part of the scheme has been put into practice up to now.

That part of the Sun-Yat-Sen scheme dealing with the railways has been repeatedly modified by the only son of Sun-Yat-Sen, Sun-Fo, who in 1930 was the head of the Ministry of Communications, and who has divided the work to be carried out into several classes, according to importance, as enumerated below.

Group I. The most important lines, the construction of which has to be effected first of all, are the following :

1. Completion of the Canton-Hankow Railway ;
2. Final construction of the Luang-hai Railway ; and

3. Final construction of the line between Taku and Taiyüan.

Group II. Railway lines next to be constructed:

1. The Nanking-Changsa line;

2. The Nanking-Canton and Foochow-Nanchang lines;

3. The line Canton-Yünan and a few minor lines.

Group III. Construction of other railways, chiefly to connect the province of Yünan with the seaboard and with the cities on the Yangtze-kiang.

The immeasurable importance of the new lines to be constructed consists, in the first place, in the fact that by their aid certain regions which possess no communication routes at all at present will be connected with the traffic system of the world. From this point of view, it is chiefly the construction of the lines in the third group which will be of importance. The opening up of new profitable lines may greatly improve the general financial situation of the Chinese railways, provided, of course, that such new lines will not be burdened with an excessive amount of interest charges. The importance of completing the Canton-Hankow line will be discussed later. Among the lines forming the second group, the two first-named will provide a new centre of attraction for shipping on the Yangtze-kiang, owing to the quantities of goods which will be shipped by rail to the river.

In what follows, we give a short description of the more important railway lines.

One of the most important railways of China is the *Peiping-Tientsin-Pukow* Railway, which possesses an extension leading to Shanghai. This railway, connecting the most important cities of China, passes mainly over the Great Chinese plain, which is one of the most fertile parts of China. It is to be regretted that of late years this railway has, owing to the unrest, repeatedly been compelled to cease working. Nevertheless its receipts from passenger traffic amounted to 4·3 million Mexican dollars. (Detailed figures concerning this railway may be found in Schedules III and IV of the Tables on pp. 130 and 131, in which this railway figures as the Tientsin-Pukow line.) It is most regrettable that this first-class trunk line, although it shows a working surplus of 692·44 Mexican dollars per kilometre, nevertheless presents a very adverse final business result (a deficit of 4,146·51 Mexican dollars per kilometre) owing to excessive interest charges, which, in themselves, amount to 4,839 Mexican dollars per kilometre. The gross surplus for the year 1930 was 1,213,240 Mexican dollars less than that of the preceding year, this being due to the civil war. In 1924 2,755,000 tons of goods and 4,100,000 passengers were carried on this line.

The length of this railway line is 628·4 miles. A concession for its construction was originally granted to Chinese contractors in 1897. It was only owing to the promised aid of American capital, however, that construction was made possible. Owing to the Spanish-American War breaking out, however, American capital was withdrawn from this enterprise, and its place was taken by British and German capital. (Germany has constructed the northern part of the line, of 389·7 miles length.) Owing to the Boxer Revolt, construction was begun in 1908 only, but the southern part was opened as early as 1909, and the whole line in 1912. The most important structure on this line is the steel bridge over the River Hoangho; this is the longest bridge in China, its length being 1,255 metres, whilst its cost was 12 million marks. This railway passes through one of the most densely populated districts of China and carries a very important amount of local traffic.

This railway is of particular importance owing to the fact that it connects the Great Plain with the Yangtze-kiang, over which there is a ferry-boat service connecting the railway with the Nanking-Shanghai line, which runs parallel to the Yangtze-kiang, and accordingly, for the reasons explained on p. 191, practically serves for passenger traffic only. But this traffic is very important, particularly since Nanking has become the centre of official China and the seat of its authorities. The length of the trunk line of this last-named railway is 193 miles, to which should be added the 10 miles branch line Shanghai-Woosung. The Nanking-Shanghai railway is one of the most profitable lines in China, this being due chiefly to the fact that of late years there have been practically no riots on the territory traversed by it, and, in addition, to the fact of its interest charges being proportionately far below those of the Tientsin-Pukow line. (On the Tientsin-Pukow line receipts amounting to 5,723 Mexican dollars per kilometre are burdened with interest charges amounting to 4,839 Mexican dollars per kilometre, whilst on the Shanghai-Nanking line the receipts amount to 28,865 Mexican dollars per kilometre and the interest charges to 5,704 Mexican dollars per kilometre only.)

The railway was constructed during the years 1905–8 by the British Chinese Company (capital stock, $3,250,000.) On the Woosung line construction had already begun in 1897, and it was opened in 1903. Later on the railway was purchased by the Chinese Government. Some considerable time ago, in 1876, the firm of Messrs. Jardine, Mathisson & Co., already mentioned repeatedly, were constructing a railway line in the part where the Woosung line is now running, but popular opinion being at that time still directed against the railways, it was necessary to remove the rails, which were subsequently utilised in the construction of the Formosa railways. Thus a railway was already running on the island of Formosa (which at that time still belonged to China) when, owing to popular feeling, it was not possible to have any railway in China proper.

The *Peking-Hankow-Canton* (*Hongkong*) line will, when completed, be one of the most important railway lines of China. It will also possess international importance, particularly for passenger and postal traffic between the Far East and Europe, because this railway will enable the whole passenger traffic to Europe from the inner and from the southern parts of China to be withdrawn from the Suez route and to be transferred to the Trans-Siberian

Railway. By means of this railway it will be possible to reach Hongkong within a period of twenty-five days by a more comfortable (less hot) route than that by boat *viâ* Suez, which goes through the tropics.

Up to now Hongkong has been, for postal traffic, midway between the Suez and the Siberian line, the time taken by the mail to reach Europe from Hongkong being the same whether by boat *viâ* Suez or by boat to Shanghai and thence by rail to Europe. The Peking-Hankow-Canton Railway will definitely deflect the postal traffic to the Trans-Siberian line, and will, in general, powerfully increase the amount of " hinterland " territory of Hongkong and Canton.

From the point of view of goods traffic, the Peking-Hankow-Canton line will—apart from the fact that shipping by water is cheaper—be important only as far as traffic within China is concerned, seeing that the Trans-Siberian Railway is at present closed to transit goods traffic. In spite of this, 4,476,000 tons of goods and 4,450,000 passengers were carried on this line. The opening of this line will cause a very interesting displacement in the direction and intensity of the internal goods traffic of China, and this displacement will also cause a change in the goods tariff. The sphere of attraction of certain lines of communication—chiefly shipping on the Yangtze-kiang and Chinese coast shipping—will be substantially modified; it will be particularly interesting to note where the dividing line between the Yangtze-kiang valley and the seacoast of Southern China will run. (Hankow and Shanghai on the one hand and Hongkong on the other will become keen competitors for the goods traffic directed towards Europe and America.)

To-day a great part of the line has already been constructed, and the construction of the remaining part is expected to be completed within the next two years. It figures as the most important item in the railway programme of Sun-Yat-Sen. The cost of construction of the railway will, according to the statements contained in the issue of January 31st, 1931, of the *Verkehrstechnische Woche*, be covered by 50 per cent. of the amount owed by China to Great Britain under the heading of damage caused by the Boxer Revolt, as shown in the schedule opposite p. 25. This arrangement is all the more reasonable, because the increase of the traffic of Hongkong is, in the first place, in the interests of Great Britain. The Peiping-Hankow section of the railway has a length of 1,213 kilometres, whilst the section starting from Hankow, constructed up to now as far as Changsa, has a length of 252 miles, and when extended to Canton will have a length of 710 by 139 miles (the last-named figure represents the length of the Canton-Siuchow section, the construction of which has already been completed). When entirely completed the length of the railway will be about 1,470 miles.

A kilometric zone tariff is in force on this railway. Originally the terminal station of the railway was 10 miles to the south of Peking, and it was only after the Boxer Revolt was put down that the railway was extended up to the capital itself. The construction of the railway was begun in 1897, and the Hankow section was in use for commercial purposes in 1905. The railway was originally built with Belgian capital, and was later on purchased by the Government of China.

As is the case with many other railways in China, the operation of this railway also is profitable. Its working receipts exceed working expenses by 1,134 Mexican dollars per kilometre, but the interest charges, amounting to 2,380·50 Mexican dollars per kilometre, turn the final result into a deficit of 1,250·27 Mexican dollars per kilometre.

For the year 1930 no traffic data are available for this line, owing to the fact that during this year fighting was going on nearly all the time along this line ("Archiv für Eisenbahnwesen," 1932, 1st fascicle), in consequence of which the results for 1930 were most probably worse than those of the previous year.

The trunk line proper of the State Railways of Northern

China is the *Peiping-Mukden* railway, through which the other railways of China are connected, *viâ* the South Manchurian and the Chinese Eastern Railway, with the Russian Trans-Siberian, as well as with the Japanese railways in Korea. This trunk line being the most important line running from China to the economically very important territory of Manchuria, the financial results achieved by it have been most satisfactory. In 1931 the receipts of the railway from passenger traffic amounted to 14,990,265 Mexican dollars, whilst receipts from goods traffic amounted to 21,980,266 Mexican dollars. To this should be added the fact that of all Chinese railways (with the exception of a branch line of minor importance) it is the Peking-Mukden Railway which has to pay the lowest interest (in 1927 1,634·39 Mexican dollars per kilometre), and has accordingly been able to show a net surplus of 15,625·11 Mexican dollars per kilometre, thus occupying by far the best position among the small number of paying railway lines in China. (See Schedule No. III of the Tables.) The receipts of this line from goods traffic showed in 1927 an increase of 6·7 million Mexican dollars as compared to 1926. In 1930, on the other hand, owing to military events in Manchuria, receipts showed a slight falling off (389·158 Mexican dollars) as compared to 1929. In 1931 expenditure amounted to 32·1 million dollars.

The construction of the line was begun in 1888, and was gradually completed, section by section, until in 1896 it was opened. For a great part of its length the line is a double-track one. In 1896 already the line was under Chinese management, but after the Boxer Revolt it came under the supervision of Russia and Great Britain, and it was only in 1902 that it was returned to China again. Of a total length of 1,366 kilometres only 476 kilometres remained Chinese. The assets, amounting to 300 million dollars, were seized by the Japanese. The number of passenger cars in 1931 was 331, that of freight cars 4,691.

Among the numerous branch lines of minor importance of the Peiping-Mukden Railway we must mention the branch line running to Chaoyang and that running to Hulutao.

Of the transverse railway lines connecting the Chinese main lines running from north to south (viz., the Tientsin-Pukow and the Peiping-Hankow-Canton lines), the most important is the so-called *Lunghai* and *Pienlo* line which, passing through central China and through the Great Plain, connects the central region of China with the sea-coast and with the afore-mentioned main lines running from north to south. (See diagrammatic sketch facing p. 113.) The main importance of this line consists in the fact that a great part of it runs alongside the River Hoangho, on which steamboats are unable to navigate, thus making up for the lower value of the latter from the point of view of communication, whilst, of course, fiercely competing with the junk shipping on the river. The length of the line is about 380 miles. It is intended to extend the railway to a total length of 1,350 miles, when it will be called the Hai-Lan Railway.

The importance of the *Hongkong-Canton* Railway will increase rapidly in proportion to the progress of the construction of the Peking-Hankow-Canton Railway. Already now (when it figures in our schedules under the name of Canton-Kowloon Railway) it is dealing with a very considerable amount of traffic, particularly passenger traffic, seeing that the transport of goods for the most part takes place by water. Nevertheless the railway, which has to carry a heavy burden of interest, is working at a considerable deficit, though its business results in 1930 were better than those of the preceding year. (See Schedules No. III and IV of the Tables.)

Among the reasons which make the railway unprofitable at present we must mention the facts that its length is short (111 miles) and that it runs all the way alongside a navigable waterway, and that, besides, it represents at present only an incomplete part of a main line which still has to be constructed.

Not least among the reasons why the Chinese railways have been unable to achieve as favourable financial results as might be expected, considering their position and

## TRAFFIC AND FINANCIAL DATA OF THE CHINESE STATE RAILWAYS.

### I. *Traffic Data for* 1930, *of the Chinese North-Eastern Railways*

| Name of Railway. | Receipts from passenger traffic. | Number of passengers transported. | Receipts from goods traffic. | Quantity of tons transported. | Total receipts. |
|---|---|---|---|---|---|
| | Mexican dollars. | | Mexican dollars. | | Mexican dollars. |
| Peking–Mukden . | 15,804,420 | 1,347,845 | 20,911,592 | 8,611,243 | 36,716,012 |
| Mukden–Hailun . | 2,471,165 | 1,347,855 | 4,905,772 | 758,155 | 7,376,937 |
| Suppingkai–Taonan . . | 2,052,032 | 962,634 | 5,315,494 | 684,254 | 7,367,882 |
| Hulan–Hailung . | 952,894 | 623,504 | 2,969,606 | 684,254 | 3,922,501 |
| Kirin–Changchun | 927,206 | 739,253 | 2,043,433 | — | 2,967,550 |
| Kirin–Hailung . | 817,123 | 283,024 | 937,854 | 323,303 | 1,754,977 |
| Kirin–Tunghua . | 491,960 | 366,797 | 1,140,786 | 474,427 | 1,632,747 |
| Taonan–Anganchi | 729,372 | 418,349 | 867,039 | 317,495 | 319,160 |
| Tsitsikar–Kosan . | 398,626 | 270,617 | 1,155,888 | 319,160 | 1,554,515 |
| Total . . | 23,644,803 | 12,082,937 | 40,244,833 | — | 64,889,636 |

### II. *A few Data regarding the Financial Position of the Chinese Railways*

| | 1926. | 1927. |
|---|---|---|
| | Mexican dollars. | Mexican dollars. |
| Traffic receipts . . . . . . | 92,161,445 | 99,506,663 |
| Traffic expenses . . . . . . | 65,934,849 | 66,950,796 |
| Surplus . . . . . . . . | 26,226,595 | 32,545,867 |
| Expenses in connection with capital (interest charges) . . . . . . . . | 26,554,975 | 28,499,333 |
| Net result . . . . . . . | — 328,379 | +4,045,533 |

economic function, is the insufficiency of their central administration. It is true that during the civil wars, when China has often had as many as three Governments, it has been impossible to talk of any centralised management at all, but as soon as conditions improve to some extent one of the first tasks confronting the heads of the Chinese railways will be to remedy the present impossible conditions.*

Details of expenditure classed according to the larger headings :

| | 1926. | 1927. |
|---|---|---|
| General expenses | 16,762,356·50 | 16,810,255·22 |
| Expenses in connection with traffic | 9,750,037·87 | 9,824,304·53 |
| Working expenses | 14,257,303·03 | 13,935,856·88 |
| Maintenance of permanent way and superstructure | 11,123,149·81 | 12,031,772·64 |
| Locomotives and rolling stock | 13,783,327·34 | 14,244,359·52 |
| Exchange of rolling stock with other railways | 258,675·29 | 114,247·49 |
| Total | 65,934,849·81 | 66,960,796·28 |

### III. *Receipts and Expenditure per kilometre of the Chinese Railways :*

| Name of railway. | Traffic receipts. | Traffic expenses. | Surplus. | Interest charges. | Net surplus. |
|---|---|---|---|---|---|
| Peking-Hankow | 8,698·17 | 7,563·93 | 1,134·24 | 2,384·51 | −1,250·27 |
| Peking-Mukden | 31,910·55 | 14,651·05 | 17,259·50 | 1,634·39 | 15,625·11 |
| Tientsin-Pukow | 5,723,15 | 5,030·71 | 692,44 | 4,838·95 | −4,146·51 |
| Nanking-Shanghai | 24,865·11 | 17,232·97 | 7,632·14 | 5,704·37 | 1,927·77 |
| Shanghai-Ningpo | 16,216·08 | 11,575·05 | 4,641·03 | 1,751·09 | 2,889·94 |
| Peking-Suiyüan | 6,154·26 | 6,789·95 | −635·69 | 3,873·12 | −4,508·81 |
| Cheng-Tai | 15,888·96 | 8,982·83 | 9,606·13 | 432·52 | 6,473·61 |
| Taokow-Chinghua | 8,238·89 | 3,993·89 | 4,245·00 | 4,154,88 | 90·12 |
| Kirin-Changchung | 25,872·90 | 18,168·25 | 7,704·65 | 5,967·65 | 1,737·00 |
| Canton-Kowloon | 7,561·81 | 9,722·16 | −2,160·35 | 3,803·30 | −5,963·65 |
| Hupeh-Hunan | 2,904·40 | 5,111·79 | −2,207·39 | 6,031·64 | −8,239·03 |
| Ssu-Taao | 14,229·67 | 8,815·07 | 5,414·60 | 7,421·59 | —2,006·99 |
| Kiao-Tsi | 24,358·54 | 15,950·57 | 8,407·97 | 8,279·30 | 128·67 |
| Nanchang-Kiukiang | 7,412·81 | 7,045·73 | 367·08 | 7,371·97 | −7,004·89 |
| Average for 1927 | 14,010·81 | 9,428·27 | 4,582·54 | 4,012·78 | 569·76 |
| Average for 1926 | 13,186·81 | 9,434·21 | 3,752·60 | 3,799·59 | 46·99 |

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* These conditions are a relic of the time when railway construction in China was effected by means of foreign capital, following which some of the States concerned established relations between themselves and China which were rather vague from a legal point of view. Thus, for instance, the lines of the

Certain signs already point to the approach of a reform in the field of central administration. Among them is the fact that a special Ministry for Communications has been established, and thus the highest authority for all matters of communication has been centralised in Nanking. One of the first points established was that the construction of railways by individual provinces is to require the approval of the Central Ministry. This has stopped the impossible practice which twenty years ago still existed, according to which the Governors of the various provinces summarily decided on the construction of the various railways; for owing to this fact, local interests and the interests of certain individuals were often served to the detriment of the economic interests of the country. It is also the Ministry of Communications which supervises the traffic on the lines.

IV. *Receipts of Chinese Railways in* 1929 *and* 1930:

| Name of railway. | Receipts for 1929. | Receipts for 1930. | Profit + Loss –. |
|---|---|---|---|
| Tientsin–Pukow . . . | 11,999,888 | 10,786,648 | –1,213,240 |
| Peking–Mukden . . . | 37,829,000 | 37,439,842 | – 389,158 |
| Shanghai–Nanking . . . | 12,120,563 | 12,558,638 | + 438,076 |
| Shanghai–Nankow–Ningpo . | 5,855,415 | 6,641,712 | + 786,297 |
| Peking–Suiyüan . . . | 5,611,998 | 4,667,738 | – 944,260 |
| Chengting–Taiyüan . . | 5,172,377 | 5,844,200 | + 671,863 |
| Taokow–Chinghua . . . | 993,291 | 1,406,273 | – 412,982 |
| Canton–Kowloon . . . | 1,396,886 | 1,568,044 | + 171,158 |
| Hupeh–Hunan . . . | 2,188,406 | 1,471,330 | – 717,476 |
| Kiaochow–Tsinan . . . | 12,202,249 | 12,314,937 | + 112,688 |
| Nanchang–Kiukiang . . | 1,439,245 | 1,234,395 | – 204,850 |
| Canton–Shiukwan . . . | 3,625,748 | 5,670,454 | + 2,044,706 |
| Hulan–Hailun . . . | 3,353,320 | 3,244,157 | – 109,163 |
| Total . . . | 103,788,746 | 104,848,368 | + 1,059,622 |

The fact that up to now Chinese railways have not been able to achieve the importance which the economic

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Eastern Chinese Railway are still controlled by an administration which is half Russian and half Chinese, and this fact was among the causes which led to the conflict between China and Russia in 1929.

importance and power of China should assure to them may be explained, in addition to the reasons mentioned above, by three other main reasons.

The first of these reasons—which, however, by this time has practically lost its importance—is the popular attitude, which for a long time looked upon railway construction as marking the growth of influence of foreign nations, and, in fact, considered it as the first stage of the colonisation of China by Foreign Powers. This attitude of the Chinese population manifested itself not only in the destruction of railways already constructed or in course of construction (as happened, for instance, during the Boxer Rising about 1900 also), but it also had the more important effect of influencing the official Governments of China, in consequence of which these Governments were very reluctant to grant permission for surveys or to issue concessions for the construction of railways, to say nothing of the fact that some local authorities, whose power and influence was at that time greater than those of similar authorities in Europe, often put obstacles in the way of the work of surveyors, engineers, etc., even against the express orders of the Peking Government.

At the present time this feeling against railway construction may already be considered to have died out. The Chinese people have familiarised themselves with the idea of railways, particularly since a large part of the Chinese railways has become the property of the State and forms a part of the national wealth of China.

To-day the steady development of railways is hampered to a much greater extent by the second cause, civil war, which has now been raging in China, practically without any interruption, for about twenty years.

This permanent disturbance results not only in the track, rolling stock, bridges, etc., suffering damage during hostilities (*e.g.*, the destruction by means of explosives of the bridge over the Hoang-ho), but also, which is more serious, in the disturbance of service or even stoppages of service for certain periods of time on various lines. Owing to this the railways not only are prevented from working at a profit and performing their *rôle* in the economic life of the country, but also their most elementary financial calculations are often upset, which circumstance greatly contributes to the present very unsettled financial condition of the Chinese railways.

For instance, events of war taking place in the territories traversed by the Peking-Hankow, Kirin-Changchun, Kirin-Hailun and Kirin-Tunghua Railway lines are responsible for the fact that for the years 1929 and 1930 it is impossible to ascertain even the most elementary traffic data of these lines. (See " Archiv für Eisenbahnwesen," 1932, 1st fascicle.)

The report, published in English, on the financial results of the Chinese railways for the year 1927 attributes the excellent results obtained during that year by the Peking-Mukden Railway, in the first place to the fact that at that time peaceful conditions ruled in the territory in question.*

The third important cause which hampers the development of railways in China lies in the conditions existing with regard to capital. As explained before, the internal formation of capital in China, the development of which is hindered by the disturbed condition of internal politics as well as by the very strong fluctuation in the exchange values of the tael and the Mexican dollar, is insufficient to allow China to finance important schemes of railway construction herself. China has therefore had to rely in this connection also on foreign capital, which has been offered liberally for this purpose. (See p. 111.) At present, however, the great reserve with which the international money market generally receives demands for new capital, as well as the considerable annual deficit of the Chinese railways, which has led them into considerable debt, have resulted in international capital's manifesting the greatest caution with regard to the financing of Chinese railways. The lack of confidence on the part of capital has been increased by the irregularity of the payment of interest and by the varying business policies of the Chinese local governments.

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* The record concerning the renting of this line is an outstanding example of what Chinese railways are capable of earning if completely free from outside interference. (See " Archiv für Eisenbahnwesen," 1932, 1st fascicle, and Dr. Wende-Textor, " Die chinesischen Eisenbahnen im Jahre 1927."

The Kemmerer Commission, set up to investigate the financial condition of China (see p. 118), has issued a rather pessimistic report on the financial condition of the Chinese railways, and this has, of course, contributed to render the situation still worse.

As long as the present economic depression continues, and as long as the inner consolidation of China does not make visible progress, improvement in this field is at least very uncertain.

We must add a few remarks on the competition of the Chinese railways with other means of communication.

In the countries of Western Europe, as well as in the U.S.A., traffic negotiated by the railway companies is affected chiefly by the competition of motor vehicles. This applies not only to passenger traffic, but, since motor lorries have been widely employed, to goods traffic also. Up to now railway companies have found only one satisfactory solution of the problem of how to fight this competition, namely, to run motor bus and motor lorry lines themselves. This is done chiefly by British railway companies, and among French railway companies by the Paris-Lyon-Méditerranée Company. An indispensable preliminary condition for the extension of motor traffic, however, consists in the existence of a system of roads in good condition. As explained in Chapter IX of the present work, this is entirely absent in China. Moreover, it is impossible for a satisfactory network of roads to be created in China soon, and, accordingly, Chinese railways need not fear competition from this quarter. In fact, the relatively low number of mechanically propelled vehicles in China (see p. 231) excludes the possibility of motor cars ever figuring as serious competitors of railways in this vast country.

Chinese railways have, however, found a much more dangerous competitor than motor cars in the coastal shipping, favoured by the special conditions existing in China. In Chapter V of the present Part, where the extraordinary economic importance of the coastal trade in China is discussed, it is also pointed out that the profits from this kind of shipping are increasing. Here we can only refer to the fact that the hostilities which have been going on along the Chinese railways running from north to south, and which have often prevented regular traffic on these lines for considerable periods, have almost completely shifted the goods and passenger traffic to the Chinese coastal trade, which also possesses the advantage of being able to extend its activity from east to west into the inner part of China, owing to the Yangtze-kiang being navigable for sea-ships for a distance of 1,000 kilometres.

It is only as a secondary consideration that the lower cost of transport by water figures in this connection, the deciding factors being the poor condition of the railways and the civil wars, owing to which the safety of passengers and goods transported by railway have been and are still, in many cases, exposed to danger. This circumstance is, in fact, pointed out in all the reports on the business results of the Chinese railways as the main reason, apart from the interest charges, which causes the Chinese railways to operate at a loss.

Of less importance than the competition of coastal shipping is that of shipping on the Chinese inland waterways, particularly of junk shipping.

To sum up what has been said above, the general situation of the Chinese railways is not a very happy one. It must, however, be taken into consideration that the circumstances responsible for the unfavourable results are partly due to a *force majeure* (for instance civil wars), and partly to causes outside the sphere of operation proper (as interest charges).

If, after the civil wars are over, it is possible to maintain the service under normal conditions, working receipts will increase, and accordingly it will be possible to allot larger amounts to the interest service. But traffic will have to develop unimpeded for many years and receipts will have to increase steadily if interest charges are slowly to diminish.

In other respects economic conditions in China afford the soundest basis for the favourable development of the business of the Chinese railways. The country possesses a great store of as yet unexploited natural resources, and wide areas of the country, the population of which represents a very large number of consumers and producers, have not yet been linked up with the world's trade, owing to the lack of sufficient routes of communication. Many of these areas are so geographically situated that the competition of the coastal trade and of shipping on inland waterways can matter very little or not at all. It would serve economic interests generally, and it would be of vital importance to the railways, if such regions were linked up with the railways system, as this would certainly increase the receipts of the railways. With this in view it may be advisable, at least temporarily until the financial equilibrium of the Chinese State Railways is assured from the profits of the new lines, for the State to assist the railways by enacting laws giving them a monopoly, particularly as this would not affect any appreciable private interests, since, as mentioned before, motor traffic is still in a very undeveloped condition in China. Thus measures of this kind on the part of the State would not infringe the principle of economic liberalism. In fact, it is thought that this policy would create new openings for employment and would help to advance the economic progress of large territories. We might even, in this particular case, declare a temporary protectionist policy on the part of the State to be absolutely necessary.

As mentioned before, it is the question of capital which represents the greatest difficulty in connection with the establishment of the new railway lines. As long as the present economic depression continues, it is impossible to count upon any willingness of foreign capital to increase its stake in Chinese railways. As time goes on, however, possibly foreign industrial companies having large interests in China may be willing to finance the construction of new railways, which would open up new regions of consumers to them. Here, again, the State may assist private enterprise by assuring to the industrial companies in question a temporary monopoly with regard to the importation of their industrial products into the territory in question, or it may offer to the industrial companies in question exemption from duty for a certain quantity of their products. On this point our ideas are in harmony with those of the Kemmerer Commission, which proposed to use the revenue from maritime customs for the reorganisation of the railways. Although from many points of view, especially that of general principle and particularly of the principle of free trade, objections might be raised to these ideas, they could nevertheless, perhaps, be put into effect, since for China the extension of her railway system is of paramount natural importance, whilst, at the same time, it is also important to European and American industry now suffering from the economic depression, as it would assure them a new outlet for their products. The rate of interest payable to the companies providing the loans would have to be fixed at a low figure, taking into account the profits which would be derived by the companies from the opening up of new territories of consumers.

This method appears to be the only practicable one under the present conditions, because with time the more important one of the two sources of income proposed by the Kemmerer Commission, notably the Chinese customs revenue, has become considerably less. The setting up of the Independent State of Manchuria and the Shanghai conflict, which broke out at the same time in 1931, interfered with the activity of the Chinese customs authorities, and in consequence the revenue figures underwent a decisive alteration.

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# CHAPTER IV

## JAPANESE MARITIME SHIPPING

As explained in greater detail in Chapter II of Part I of the present work the geographical position of Japan in itself predestines the Japanese people to occupy an important position among the seafaring nations of the world. The time taken by Japanese maritime shipping to reach its present position has been comparatively short, this rapid development being a direct consequence of the rapid general development of Japan, which has within a few decades reached a stage of political and economic ripeness which it has taken other Powers centuries to attain.

The causes which have been decisive in the development of Japanese maritime shipping may be broadly divided into two groups.

The more important group of causes is that consisting of facts of an economic nature, which necessarily arose when Japan, which up to that time had been hermetically sealed and separated from the rest of the world, entered the economic system of the world and became both a consuming and a producing territory for other parts of the world. From 1854 onward, when the American, Admiral Perry, for the first time concluded an official treaty with the State of Japan, and when, as a consequence of this treaty, Japan opened its doors to foreign nations in succession (treaties were concluded with Russia in 1856, with Great Britain, Holland and France in 1858), up to the first years of the 'eighties, the part played by Japan in the world's trade was almost exclusively that of a producer of raw materials. The beginning of the period of industrialisation, which even to-day is far from having reached the apex of its development, although already it has raised Japan to a position among the first industrial countries of the world, was a decisive turning-point in the development of Japanese maritime shipping as well.

Japanese engineering works and shipyards were established in rapid succession ; the Japanese flag began to appear on the oceans and Japanese ships began to carry the goods produced by the steadily growing Japanese industry, as well as those called for by the growing demand in Japan. Special reduced tariffs were established for the transport of goods produced in Japan. Japan soon discovered that unless she could transport her own goods and citizens on ships of her own she would be at the mercy of the other merchant powers of the world, particularly of Great Britain and of the U.S.A. As the importance of Japan, from the point of view of the world's trade, increased, and, in consequence, the quantity and value of the imports and exports of Japan became more important, large amounts would have had to be paid for transport by Japanese firms and individuals to foreign (chiefly British) shippers had not Japan possessed a commercial fleet of her own, the profits of which remain in the country, thus greatly increasing the national revenue. So the development of Japanese maritime shipping became for Japan a matter of imperative necessity. Among the causes of the present critical condition of British shipping, the rapid development of the commercial fleet of Japan is not the least important.

In what follows (see p. 345) we will show that it is precisely Japanese shipping that has caused Japanese industry, which is steadily growing, to threaten the supremacy of Great Britain and of the other Great Powers in the Far East and even in other parts of Asia. In the first stage of its development, Japanese maritime shipping aimed directly at making Japanese goods able to compete with others in distant countries. The reasons why to-day Japanese ships are serious competitors of the ships of other nations on practically all the seas of the world are discussed in greater detail on p. 144.

The second group of causes is of a political nature, including, in the first place, the position occupied by Japan as an owner of colonies. Japan, who entered the lists of colonising States at a relatively recent date, and who gained a foothold on the continent of Asia only as recently as 1910, has since then been steadily extending her sphere of influence not only in China (Manchuria, Japanese settlements on the sea-coast and along the Yangtze-kiang), but after the War also on the islands in the South Pacific. Now the colonisation of, and the maintenance of rule on, territories separated from the mother country by the sea is only possible as long as a country is in possession of a powerful commercial fleet. Therefore the whole Japanese emigration movement, in the course of which Japanese emigrants have settled not only in the islands of Asia, in China, and on the western coast of North America, but also in Brazil and Australia, has furnished a reason for a powerful commercial fleet which will ensure these emigrants remaining in contact with the mother country. This will become of greater importance in the future, when Japanese settlers in foreign lands have increased in numbers and wealth and have become important factors of the economic life of the countries in question.

We can therefore, in conclusion, establish the fact that the development of maritime shipping constituted one of the items of a national programme which aimed at rendering Japan independent of the other Great Powers, and caused it to become one of them in due course. The putting into effect of such a programme depended in a large measure on the establishment of a large independent Japanese mercantile fleet, and now it may be said that, this programme having been completed, the continued active development of Japanese merchant shipping is assured.

The reasons stated above explain the great development of Japanese merchant shipping. The golden age of the creation and development of Japanese merchant shipping was the second half of the last century, and the higher the position attained by Japan as a great power among the merchant nations of the world became, the greater became the importance of its mercantile fleet also. The figures illustrating the development of the mercantile fleet of Japan from 1870 up to the present time may be found in the table published below. Only steamships and motor ships have been included in this table.

| Year. | Ships. | | Year. | Ships. | | Year. | Ships | |
|---|---|---|---|---|---|---|---|---|
| | Number. | Tonnage. | | Number. | Tonnage. | | Number. | Tonnage. |
| 1870 | 35 | 15,498 | 1891 | 607 | 95,588 | 1912 | 3,064 | 3,442,084 |
| 1871 | 71 | 20,934 | 1892 | 642 | 102,301 | 1913 | 3,286 | 1,528,264 |
| 1872 | 96 | 23,364 | 1893 | 680 | 110,205 | 1914 | 3,487 | 1,593,404 |
| 1873 | 110 | 26,088 | 1894 | 745 | 169,414 | 1915 | 3,636 | 1,623,091 |
| 1874 | 118 | 26,120 | 1895 | 827 | 213,221 | 1916 | 3,882 | 1,717,724 |
| 1875 | 149 | 42,304 | 1896 | 899 | 373,588 | 1917 | 4,042 | 1,849,903 |
| 1876 | 159 | 40,248 | 1897 | 1,032 | 438,779 | 1918 | 4,775 | 2,337,679 |
| 1877 | 183 | 49,105 | 1898 | 1,130 | 477,430 | 1919 | 5,203 | 2,869,688 |
| 1878 | 195 | 43,899 | 1899 | 1,221 | 510,007 | 1920 | 5,810 | 3,047,498 |
| 1879 | 199 | 42,763 | 1900 | 1,329 | 543,366 | 1921 | 6,113 | 3,207,457 |
| 1880 | 210 | 41,215 | 1901 | 1,395 | 583,067 | 1922 | 6,312 | 3,295,862 |
| 1881 | 298 | 41,044 | 1902 | 1,441 | 609,951 | 1923 | 6,169 | 3,361,458 |
| 1882 | 344 | 42,107 | 1903 | 1,570 | 662,986 | 1924 | 6,716 | 3,564,867 |
| 1883 | 390 | 45,350 | 1904 | 1,815 | 797,953 | 1925 | 7,323 | 3,546,941 |
| 1884 | 412 | 49,845 | 1905 | 1,988 | 939,462 | 1926 | 7,779 | 3,662,447 |
| 1885 | 461 | 59,610 | 1906 | 2,103 | 1,041,268 | 1927 | 8,091 | 3,728,700 |
| 1886 | 460 | 63,314 | 1907 | 2,223 | 1,116,945 | 1928 | 8,149 | 3,811,810 |
| 1887 | 486 | 72,322 | 1908 | 2,304 | 1,160,440 | 1929 | 8,341 | 3,725,759 |
| 1888 | 524 | 81,066 | 1909 | 2,366 | 1,198,194 | 1930 | No data available. | 4,317,000 |
| 1889 | 564 | 88,816 | 1910 | 2,545 | 1,233,909 | 1931 | | 4,276,000 |
| 1890 | 586 | 93,812 | 1911 | 2,844 | 1,386,534 | 1932 | | 4,225,000 |

| Reasons. | Losses suffered by | |
|---|---|---|
| | Tramp ships | Line ships. |
| | Million yen. | Million yen. |
| Chinese boycott . . . . | 37·8 | 18·0 |
| Depreciation of the pound sterling . | 9·9 | 8·6 |
| Indirect causes . . . . | 23·4 | |
| Total . . . | 71·1 | |

It is particularly during the ten years after the War that the rapid rate of development becomes most strikingly apparent, the number of ships doubling from 1918 to 1928. The following table gives interesting figures concerning recent activity with regard to the construction of ships; it also shows how extremely busy the Japanese shipyards were during this time.

Number of new ships constructed:

| Year. | In Japanese shipyards. | In foreign shipyards. | Year. | In Japanese shipyards. | In foreign shipyards. |
|---|---|---|---|---|---|
| 1918 | 673 | 423 | 1923 | 1,114 | 390 |
| 1919 | 888 | 409 | 1924 | 1,145 | 442 |
| 1920 | 908 | 394 | 1925 | 1,194 | 432 |
| 1921 | 958 | 386 | 1926 | 1,254 | 437 |
| 1922 | 1,039 | 388 | 1929 | 1,392 | 449 |

The table includes steamships and motor ships of iron and steel only; sailing ships and timber-frame motor ships are not included in the table. During the period 1920–1931, 839,000 gross tons of new Japanese tonnage were launched.

To enable comparisons to be made, we publish in the following table some figures showing the development of the most important mercantile fleets of the world. The table only includes steamships and motor ships.

| | 1892. | | 1912. | | 1932. | |
|---|---|---|---|---|---|---|
| | Number of ships. | Tonnage. | Number of ships. | Tonnage. | Number of ships. | Tonnage. |
| Great Britain | 7,720 | 5,307,000 | 11,441 | 19,874,000 | 7,592 | 19,562,000 |
| U.S.A. | 6,392 | 2,016,000 | 3,442 | 5,258,000 | 3,351 | 12,820,000 |
| Germany | 1,882 | 1,528,000 | 2,213 | 4,628,000 | 2,135 | 4,143,000 |
| Japan | 642 | 102,000 | 3,064 | 1,442,000 | 1,964 | 4,255,000 |
| France | 1,157 | 521,000 | 1,492 | 2,056,000 | 1,518 | 3,508,000 |
| Italy | 290 | 186,000 | 1,090 | 1,398,000 | 1,091 | 3,331,000 |
| Holland | 143 | — | 701 | 1,129,000 | 1,424 | 2,957,000 |

It appears from the table that during the last forty years the Japanese mercantile fleet has increased to forty times its former size as regards tonnage, whilst during the same time the ships of the greatest maritime power of the world, Great Britain, have barely multiplied their tonnage by three and a half.

The importance of the Japanese fleet is still further increased by the fact—significant also with regard to its rivalry with other fleets—that two factors in connection with the majority of Japanese ships assure them a very favourable position in shipping to-day, namely, most of the Japanese ships, having been constructed during the last twenty years, are still comparatively modern, and therefore safe and of high speed, and are therefore preferred by merchants for the shipment of goods. The cost of insurance is also lower in the case of such modern ships. Secondly, Japanese shipping companies during the large shipping boom before the War, contrary to large European and North American shipping companies, refrained from constructing giant ships, which in the present economic situation are utilised to only one-half or sometimes one-quarter of their full loading capacity, their working costs being often as high as five times those of the ships having a tonnage of less than 10,000 tons. They have also refrained from dividing their mercantile fleet into ships carrying goods only and ships carrying passengers only. The Japanese mercantile fleet—with the exception of perhaps three or four units *—consists of ships of the so-called semi-cargo type, arranged for carrying passengers as well as goods, owing to which fact they can be utilised to better advantage than ships built for passengers alone or cargo alone, and suitable for special purposes and under special circumstances only. This construction of Japanese ships is all the more sensible, seeing that up to now passenger traffic on the Pacific Ocean and on the seas of Asia has not yet reached the volume which would justify the construction of ships arranged for passenger service alone. Another advantage

* *Chichibu Maru, Asama Maru, Tatsuta Maru.*

of the ships of the semi-cargo type is that it is possible to remove them at any time from a less frequented route and set them to work on some other route where the ships can be more useful.

It would for instance—unless very costly modifications were effected—be impossible to transfer the *Mauretania*, arranged for passenger traffic alone, or the newest giant ocean ship, the *Empress of Britain*, from the New York-North of Europe route to some line which might be more profitable owing to greater cargo traffic, whilst in the case of ships of the semi-cargo type it is always easily possible to make the accommodation for passengers or cargo larger or smaller, as conditions may require.

This is the main factor which makes Japanese maritime shipping not only able to compete with others even under the present difficult circumstances, but which has enabled large Japanese shipping companies, unlike the shipping companies of all other nations, not only to make ends meet, but actually to earn profits.* During the War years Japanese shipping companies earned huge sums particularly from the supplies carried by the U.S.A. and Japan *viâ* Vladivostok and the Trans-Siberian Railway to Russia, which at that time was completely cut off from its Allies in Western Europe. † It was out of these profits that Japan subsequently built her modern ships, which, now that the centre of gravity of the world's trade begins to be shifted from the Atlantic to the Pacific Ocean, have given Japan first place in the traffic between parts of the west coast of North America and the Far East. (At present traffic between the Far East and the west coast of North America is served by a fleet of about 350,000 tons, of which about 150,000 tons sail under the Japanese flag. (See the article of L. M. Arikawa in the *Japan Times*, Overseas Edition, November 2nd, 1931.) Besides, another advantage derived from these unusually high profits is that they enable the cost of construction of the recently built ships to be written off very quickly, and repayments to be effected on the loans, as a result of which the interest charges are reduced. The subsidies paid by the Japanese Government to the various shipping companies are relatively small. According to the figures published in the May 20th, 1932, number of the "Wirtschaftsdienst," the subsidies paid by Japan to the shipping companies amounted in 1927–28 to 4·7 million gold dollars, in 1930–31 to 5·1 million gold dollars, and in 1932 to 3·8 million gold dollars only. At the same time the U.S.A. subsidised their shipping companies in 1927–28 to the extent of 22·6, in 1931–32 to the extent of 27·1 million gold dollars; whilst the subsidies paid by Great Britain to her shipping companies amounted to 3·3, or in 1931–32, 8·3 million gold dollars.

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* L. M. Arikawa, "Shipping Industry in Japan." The *Japan Times*, Overseas weekly edition, November 2nd, 1931. The article, which created a sensation, points out that, during the War, the annual receipts of Japanese merchant shipping amounted to 450 million yen. In the years following the War also these receipts were very considerable, as shown by the following figures: In 1921 these receipts amounted to 140 million yen, in 1922 to 109 million yen, in 1923 to 105 million yen. In 1924 the amount suddenly rose to 117 million yen, due to the earthquake of 1923 which rendered the import of raw materials for re-building and of other goods necessary. In the Budget year, 1923–24, the balance of trade of Japan showed an adverse balance of 470 million yen, chiefly in favour of the U.S.A. In the following years receipts went on increasing, in 1925 the receipts amounted to 129 million, in 1926 to 128 million yen. In the following year receipts went on increasing, amounting in 1927 to 132, in 1928 to 132, and in 1929 to 160 million yen. The reason for this increase is to be found in political events in the Far East (supplies of war material to China, etc.).

† In the autumn of 1917, when the revolution broke out, about 600,000 tons of Japanese goods intended for Russia were stored in Vladivostok. See Arthur J. Brown, "Japan's Aufstieg zur Weltmacht," p. 138.

It is, however, due not only to favourable circumstances, but also to the well-considered shipping policy of the Japanese Government, that Japanese maritime shipping has attained its present importance in a relatively short time. It is chiefly in two ways that the Japanese Government has been and is endeavouring to develop Japanese maritime shipping. One of these is by trying to unite the small shipping companies possessing little capital into a large combine, to which it then assures advantages, partly by granting subsidies to it and partly by giving it a monopoly on certain routes, thus creating a state of things which may be described as the existence of a regional cartel between a number of large companies, each formed by the combining of a large number of small enterprises. Later on mutual agreements are concluded by the various large companies with a view to their closer co-operation. This policy of the Japanese Government is all the more remarkable because from certain points of view it is an absolutely unique one. It is true that to-day European and American shipping companies are also co-operating on the basis of various kinds of cartel agreements (Hapag and Norddeutscher Lloyd are co-operating on the basis of a certain uniformity of business management; Société Transatlantique and Messageries Maritimes on the basis of a division of territories, etc.), but such co-operation was the final outcome of a state of very keen competition which in the end became untenable, and was not due to any gentle pressure exercised by the respective Governments. By assuring to large companies a monopoly on certain routes, the Japanese Government ensures the attainment of two ends. One of these is that it creates, from the first, a state of things similar to that existing in a region cartel, whilst the other consists in its forcing the small companies to combine, thus creating more powerful economic units instead of granting various subsidies (construction loans, restitutions, etc.) to smaller companies, which often, even with these subsidies, are unable to face keen competition.

From the point of view of political economy, objections might perhaps be raised to this policy of the Japanese Government—namely, it might be contended that such a policy is not in conformity with the principles of economic Liberalism and of free trade. Two points, however, absolutely justify the course decided upon by the Japanese Government.

The first point—this is the less important one—is that by forcing shipping companies into a cartel it saves them certain items of unnecessary expense, which would have to be met in the case of unhampered fierce competition. (Such expenses are, for instance, those due to running a greater number of ships than really required on the line in question, expenses of propaganda, expenses for improvements which are not absolutely necessary, as, for instance, the installation of a moving picture theatre on a ship not yet fitted with such a theatre, whilst the ship of some other company running on the same line is fitted with the same, etc.)

The other reason, which absolutely justifies the policy of the Japanese Government towards shipping companies, finds its explanation in the general situation of the world's trade. The article of M. Arikawa, quoted repeatedly, mentions the very keen competition existing between British, American, Japanese and other shipping companies running services on the Pacific Ocean and on the seas of Asia. He does not give any explanation for the extraordinary keenness of this competition ; it is, however, evident that, since impoverished Europe has been unable to purchase the goods accumulated in the U.S.A. by over-production, these goods are flowing towards the Far East, where, in addition, a number of other circumstances, as, for instance, the boycott of British goods and the preference given to American and Japanese goods in connection with the unrest in India, the wars in China, etc., have created a series of situations which, resulting not only in certain displacements in the main routes of the world, but exercising their effects in other fields of trade as well, have opened up new possibilities to the shipping companies. In this fierce struggle the Japanese are able to take part with a better chance of success owing to the fact that internal competition among the various Japanese companies has been ruled out.

It may be argued that this policy of the Japanese Government which hampers free trade affords to Japanese companies enjoying a privileged position on the various lines the possibility of establishing their tariffs in an arbitrary manner. Such an assertion would, however, be untenable for the reason that, though the Japanese company in question is protected against inland competition, it still has to compete against foreign shipping companies. The fact that Japanese ships are to-day operating with such good financial results, and that they are in the forefront of competitors, is also due, in addition to the reasons mentioned above, according to which the safety and speed of their ships has helped them to gain popularity in international goods traffic, to the further important fact that the Japanese travelling public patronises almost exclusively their own ships. It does so not only from national feeling, but also owing to a series of other causes, namely, because on the Japanese ships they are able, if they desire, to eat their own national food, and because they feel more at home than on European and particularly on American ships, where the officers and crew never consider them as beings quite equal in rank to white men. On the other hand, the travelling public of Great Britain, U.S.A., and other countries also prefer Japanese passenger ships to those of any other nationality, and this is due to the fact that on the two most important lines to the Far East (viz., on the San Francisco-Yokohama and on the London-Suez-Singapore-Hongkong-Shanghai-Yokohama line) the Japanese ships are to-day of the most up-to-date type and are highly renowned for the excellent food and accommodation they provide.*

The table on page 150 shows the regular lines served by the more important Japanese shipping companies to deal with the traffic between Japan and the other parts of the world.

The latest developments in Japanese maritime shipping occurred in the spring of 1931 when the two largest Japanese maritime shipping companies, the Nippon Yushen Kaisha (see p. 157) and the Osaka Shosen Kaisha (see p. 160), concluded an agreement which represented the completion of negotiations of very long standing. This agreement, which is of decisive importance in the

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* On the San Francisco-Yokohama line the *Asama Maru*, the *Chichibu Maru* and the *Tatsuta Maru* have been put into service successively between October, 1929, and April, 1930. They are motorships of a tonnage of 17,000 tons each. On the European line two Diesel engine-operated semi-cargo units, the *Terukuni Maru* and the *Yasukuni Maru*, have been put into service.

REGULAR LINES SERVED BY THE MORE IMPORTANT JAPANESE SHIPPING COMPANIES AND THEIR DISTRIBUTION AMONG THE VARIOUS SHIPPING COMPANIES :

| Route. | Frequency of sailings. | Name of company. |
|---|---|---|
| *Yokohama–London :* | | |
| Mail route *viâ* Shanghai–Hongkong – Singapore–Colombo–Suez–Naples–Marseilles. | Fortnightly. | Nippon Yushen Kaisha. |
| *Yokohama–Melbourne :* | | |
| Mail route *viâ* Davao–Thursday Island. | At least once a month. | Nippon Yushen Kaisha. |
| *Yokohama–San Francisco* *viâ* Honolulu. | Fortnightly. | Nippon Yushen Kaisha. |
| *Yokohama–Victoria–Seattle* | Fortnightly. | Nippon Yushen Kaisha. |
| *Yokohama-Kobe-Valparaiso* *viâ* Callao. | Once every six weeks. | Nippon Yushen Kaisha. |
| *Yokohama–Kobe–Buenos Aires.* | Once every six weeks. | Osaka Shosen Kaisha. |
| *Yokohama–Capetown viâ* Kobe–Singapore–Colombo–Dar-es-Salaam | Once a month. | Osaka Shosen Kaisha. |
| *Japan–Java* . . | Each three weeks. | Nayo Yushen Kaisha. |
| *Japan–North China* . | Three times a month. | Nisshin Kisen Kaisha. |
| *Japan–South China* . | Three times a month. | Nisshin Kisen Kaisha. |
| *Shanghai–Hankow* . . | Eighteen times a month. | Nisshin Kisen Kaisha. |
| *Hankow–Ichang* . . | Five times a month. | Nisshin Kisen Kaisha. |
| *Kobe–Dairen* . . | Twice a week. | Nisshin Kisen Kaisha. |
| *Yokohama–Shanghai viâ* Kobe–Nagasaki. | Twice a week. | Nippon Yushen Kaisha. |
| *Kobe–Tientsin* . . | Once a week. | Kinkai Yushen Kaisha. |
| *Yokohama–Newsang* . | Four times a month. | Kinkai Yushen Kaisha. |
| *Japan–Tsingtau* . . | Six times a month. | Nip. Y.K. and Osaka S.K. |
| *Japanese maritime circuit.* | — | Various smaller companies. |
| *Japan–West coast of Korea* | Twice a month. | Shosen Yushen Kaisha. |
| *Nawa–Osaka* . . | Four times a month. | Osaka Shosen Kaisha. |
| *Nawa–Kagoshima* . . | Twice a month. | Osaka Shosen Kaisha. |
| *Japan–Havana viâ Pan* . | Once in two months. | Nippon Yushen Kaisha. |
| *Japan–Petropawlowsk* . | Once a month in summer. | Kuribayashi So. Kaisha. |
| *Hokkaido–Honshu* . . | Every day. | Kita Nihon Kisen Kaisha. |

history of the Far East, was concluded for a term of seven years and covers mainly the following points : The two companies purchase their requirements from one place and at the same price, *i.e.*, they establish a purchasing centre. In ports the loading and unloading of goods as well as of passengers is to be effected, as far as possible, by the same enterprises. As regards traffic between Japan and South America, which till then was divided between the two companies (see Table on p. 150), and thus formed the object of competition, uniform procedure was agreed upon.* That this agreement may be considered as another success achieved by the policy described above of the Japanese Government is clear from the fact that the text of the agreement was immediately notified to the Government.

The question arises as to how Japanese tramp shipping and charter shipping is developing compared with line shipping, which is subsidised to such a large extent by the State.†

It appears from the description of the situation given above, that Japanese merchant shipping possesses a sufficient number of relatively new cargo boats which, owing to their particular properties (lower cost of construction, great mechanical resistance, large stowage areas, etc.), are chiefly suitable for use as tramp ships.

Tramp shipping has during post-war years achieved importance particularly in those areas where there is a widespread demand for different kinds of goods.

In such circumstances tramp ships which supply certain goods from one port to another are easily able to receive there a new cargo required in a third port, and thus permanent employment is assured to the ships.

A characteristic example is the so-called European tramp shipping triangle, the corners of which are Cardiff, in Great Britain, Egypt and some Mediterranean port. The tramp ship will, for instance, ship cotton for the British cotton industry from Alexandria to Cardiff; in Cardiff, which is one of the chief coal loading ports of Europe, it will take a load of coal and go to the Mediterranean Sea, where it will distribute the coal among the minor coaling stations. In these ports again it may take in new cargoes (chemicals, industrial products) for Egypt.

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* See the agreement between N.Y.K. and O.S.K., concluded in Tokyo on March 18th, 1931.

† By tramp shipping is understood the shipping of smaller enterprises or private individuals, where the tariff, the route and the schedule are fixed individually in each case, as distinct from line shipping which possesses fixed tariffs, schedules and routes. Charter shipping means the giving in lease for shipping purposes by companies or private persons of the ships or parts of ships owned by them.

The events which have taken place in the Far East of late years, namely, the great Japanese earthquake, in consequence of which an enormous quantity of goods supplied mostly by U.S.A. was required for the rebuilding of Tokyo and Yokohama (in 1924 Japanese imports exceeded exports by 65 million gold pounds), and the civil wars in China, which made the supply of large quantities of war material necessary, have placed tramp shipping on the Pacific Ocean into a very flourishing position. The great lack of mercantile ships felt about the year 1932 also contributed to the very active development of tramp shipping.

Accordingly, the Japanese ships built during and immediately after the War have easily found employment as tramp ships, and are therefore to-day the most formidable competitors of British and North American ships on the Pacific Ocean.

Tramp shipping on the Pacific Ocean now moves in two triangles.

One of them is the triangle Puget Sound (Seattle-Vancouver - Victoria) - Japan (China, Honolulu) - San Francisco-Seattle,* whilst the other is the line Japan-Singapore and South Pacific Islands-San Francisco-Japan.†

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* Main articles transported: oil, machinery, foodstuffs, cotton, into Japan. American shipments to China consist of practically the same articles. From China the ships return to San Francisco with loads of soya beans, tea and certain kinds of timber, *viâ* Japan, where they take in rice and silk; from San Francisco they carry oil and fruit to Seattle.

† On this line are shipped semi-manufactured products, matches, machinery from Japan to Singapore and to the Pacific Islands; from the Pacific Islands to America, spices, fruit, copra; from San Francisco to Japan, oil, machinery and food.

Of the tonnage, amounting on July 1st, 1932, to 3,908,893 gross register tons, of Japanese maritime shipping, tramp ships accounted for 2,378,656 tons, corresponding to 60 per cent. of the total tonnage. The largest tramp shipping companies are the Kokushai Kishen Kaisha, with a fleet of 46 ships, totalling 246,600 gross register tons, the Kawasaki Company (30 ships, 136,400 tons), the Mitsui Bussan Kaisha (31 ships, 111,270 tons), the Dairen Kishen Kaisha, financed by the South Manchurian Railway Company (44 ships, 139,700 tons). The most important of these, the Kokusai Kishen Kaisha (International Steamship Company), was formed on August 1st, 1919. Its present capital stock is 20 million yen. It has been formed of eight smaller companies, the ships of which have been taken over by it at the price of 350 yen per ton. For the compensation of the bondholders, the company received a Government loan of 62·5 million yen. The company was reconstituted in 1929. The Chinese boycott and the events of war have caused substantial losses to tramp shipping. Whilst in 1931 the revenue still amounted to 180 million yen, in 1932 this revenue suffered a set-back, shown by the figures contained in the table on page 142.

It was only the fall in the rate of exchange of the yen which eventually saved the Japanese tramp shipping and gave a new impetus to it in 1932. Japanese tramp ships transported in 1932 goods of 32 million tons d.w., chiefly coal and timber (70 per cent. of the whole traffic) from April to October, soya beans from September to June, and rice from January to March. The kinds of traffic in which Japanese tramp ships are engaged, shifting with the seasons, are shown in the table on page 154.

In 1928 goods to the value of 125 million yen were shipped from U.S.A. to Japan. A preponderant part of this quantity was handled by tramp shipping. It is regrettable that exact data as to how this traffic was distributed over British, American and Japanese tramp ships are not available.

The present general economic depression has, of course, affected shipping, but owing to its characteristic properties referred to above, tramp shipping suffers less from this depression than line shipping, because its ship units enable it to transport goods at lower rates.

The position of charter shipping, which is related to tramp shipping, is in many respects similar to it. It is of particular importance in Japan, where the large companies, particularly the Osaka Soshen Kaisha, possess a large number of ships of relatively small tonnage (4 to 6,000 tons) equipped for long-distance traffic, which can be hired at rates which are economically profitable.

During the economic depression the leasing of their ships in this manner is practically the only way open to the shipping companies to recover the losses suffered by them in connection with their line shipping activity.

| Route. | 1930. | | 1931. | | 1932. | |
|---|---|---|---|---|---|---|
| | Aug. | Dec. | Aug. | Dec. | Aug. | Dec |
| European route | 95 | 236 | 221 | 364 | 437 | 692 |
| N.S. Atlantic | 143 | 334 | 145 | 185 | 202 | 214 |
| N.S. Pacific | 550 | 453 | 403 | 559 | 309 | 352 |
| Australia, India | 70 | 205 | 206 | 212 | 115 | 249 |
| South Sea | 276 | 378 | 342 | 359 | 339 | 318 |
| Coasting trade | 1,924 | 1,359 | 1,851 | 1,259 | 1,748 | 1,301 |
| Idle tonnage | 222 | 322 | 92 | 309 | 135 | 119 |

Japanese charter shipping is of very great importance and has assumed a peculiar form—namely, the majority of tramp ship owners are only capitalists, but not shippers. Accordingly, the so-called " operator " attends to business in their place. There has thus developed a particular form of charter, the so-called " bare boat form " (Hadaka charter). The operator hires the bare boat for a certain time. He pays the cost of personnel, maintenance operation and insurance. While his lease lasts he owns the ship and has the right of directing it to any route he thinks fit. The freight rates are lower in the case of

Hadaka charters than in the case of time charters. The Hadaka rates are as follows :

| | Ships above 4,000 tons. | Ships of 1,000–4,000 tons. |
|---|---|---|
| | *per ton* | *per ton.* |
| March, 1931 . | 1·30 yen per month. | 1·50 yen per month. |
| February, 1932 . | 1·40 " " " | 1·80 " " " |
| September " . | 1·35 " " " | — |
| October " . | 2·00 " " " | 1·70 " " " |
| December 15th, 1932. | 3·50 " " " | 4·50 " " " |

Large groups of " operators " have been formed in Japan. The largest of these is the Yamashita K. K., running a fleet of 750,000 tons in Hadaka charter. The second group is the Daido K. K., having a fleet of 400,000 tons. The capital stock of the first-named company is 20 million yen. These two companies together control the ships of 80 per cent. of the tramp owners.

Things are very different with regard to Japanese coastal shipping. The entire configuration of the Japanese island world greatly favours the development of the coasting trade. The highly developed traffic between the numerous, densely populated islands, divided from each other by narrow sea channels only, has made the coastal trade an important accessory of the railway system. For the construction of railway bridges and railway lines from one island to another would be very expensive, whilst the profits yielded by such construction would be greatly out of proportion to the high cost. Thus it is on coastal shipping that the task of connecting the numerous small islands with each other and with the main ports possessing railway stations and a network of sidings on their quays for the transhipment of goods devolves. This function of coastal shipping is of particular importance on the co-called " Inner Sea " of Japan, between the islands Hanshu and Shikoku, which region, comprising a large number of islands, peninsulas and bays, is one of the most densely populated. It is on the north shore of the Inner Sea that the Tokaido line (see p. 65) runs, whilst the opposite island of Shikoku, in spite of its considerable area (18,770 square kilometres) and of the high density of its population, is practically without any railway system.

On other important routes the Japanese railways have recently become strong competitors of coastal shipping, for, as is being done in Scandinavia, they are assuring the connection between their lines partly by shipping lines under the management of the railways and partly by means of ferry boats (see in greater detail on p. 81 of Chapter I of Part II).

As regards coastal shipping, it is very difficult to obtain an exact idea of it by means of actual figures. For instance, it is difficult to distinguish the smaller and larger companies engaged on regular coasting service from, say, fishing boats, which also undertake the shipment of goods and passengers from one village on the sea-coast to the other. It is practically impossible to control these.*

It should also be mentioned that even the greatest Japanese shipping companies, as, for instance, the Nippon Yushen Kaisha and the Kita Kisen Kaisha, also include coastal shipping in their regular services. Thus the ships of the first-named company, on their sailings from Yokohama to Europe, call at the ports of Jokaichi, Osaka, Kobe and Moji-Shimonoseki ; whilst the second company maintains a regular coastal service between Hokkaido and Honshu. The chief importance of these services, however, from the point of view of the N.Y.K., consists in the collection of goods intended for Asia and Europe.

According to the latest statistics of the year 1931, 1,969 ships carrying the Japanese flag were registered. Of these 401 were motor ships. This figure is taken from *Lloyd's Register*, and does not include sailing vessels or ships of less than 100 tons tonnage. This accounts for the difference between these figures and those published on pp. 142 and 143.

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* The coasting fleet was estimated in 1930 as having a tonnage of 760,000 tons.

The Japanese shipping industry figures in 1924 with an amount of 320,490,000 gold yen among the constituent parts of the national wealth of Japan. (See K. Mori, " The Estimate of the National Wealth and Income of Japan proper," Tokyo, 1930.*)

In this year the total amount of the national wealth amounted to 102,341,000,000 yen.* (See in greater detail the table on p. 29.)

Having, on the preceding pages, discussed the main questions bearing on Japanese maritime shipping and its development, we must now discuss some of the most important Japanese maritime shipping companies in greater detail.

The most important Japanese maritime shipping company is the *Nippon Yusen Kaisha* (the Japan Mail Steamship Company). It was formed in 1884 by the amalgamation of two small enterprises. In 1885 the Mitsubishi Company and the " Kyodo Unyu Kaisha " (United Express Company) founded the Kaisho Kaisha with a capital stock of 11 million yen. This company at that time possessed 69 ships and was of a semi-official character. The tonnage of its ships amounted in that year to 66,700. At first the new company was subsidised by the Government to the extent of £88,000 per annum. The development of the new company was so rapid that already at the outbreak of the War it occupied the ninth place among the largest mercantile shipping companies of the world.

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* K. Mori has based his calculation on the statistics published by the Shipping Dept. of the Ministry of Communications in 1924. The calculation was based on the selling value of the ships per ton.

In order to obtain the 1931 value of the Japanese ships, the value of Japanese ships in 1924 (320,490,000 gold yen) should be divided by their tonnage (3,564,860 tons), thus obtaining the value per ton. Multiplying this by the tonnage for 1931, the present value (384,332,500 yen) is obtained.

A number of points should, however, be taken into account. Namely, that the ships built since 1924 are new and thus relatively of greater value than the superannuated ship units. Besides a number of old ships have since then been discarded, whilst a number of ship units which had been in the possession of other companies have been purchased by the Japanese companies.

However, the increase of value owing to the construction of new ships is balanced by the effects of the present economic depression, owing to which the demand for ships has diminished and therefore they can be sold at lower prices only. The number of discarded ships, and that of ships taken over in used condition, also approximately balance each other. During the War the proportion of national wealth represented by Japanese ships rose to a particularly high figure. Ships represented in 1917 a value of 1,051,420,000 yen, and in 1919 a value of 1,181,690,000 yen, these high figures being due to the large demand for available tonnage.

Its capital stock amounts at present to 106,250,000 yen, of which 64,250,000 yen is paid up. The seat of the company is Tokyo, its main port Yokohama. The table given below supplies information as to the development of the company during recent years.

The ships of the company are now running on the most important shipping routes of the world—namely, the company has the right of maintaining a regular service between Japan and Europe through Suez; its ships are running on two routes between Japan and North America, notably on the route Seattle, Victoria B.C.-Yokohama, and on the route San Francisco-Honolulu-Yokohama. (See p. 284.) The book value of the fleet was 109,400,000 yen.

| Year | Capital stock. | Paid-up capital. | Number of ships. | Tonnage. | Number of passengers. | Quantity of goods transported, | Receipts. |
|---|---|---|---|---|---|---|---|
| | Yen. | Yen. | | | | Tons. | Yen. |
| 1918–19 | 100,000,000 | 55,000,000 | 96 | 438,000 | 240,295 | 4,957,000 | 168,868,000 |
| 1919–20 | 100,000,000 | 58,000,000 | 104 | 494,000 | 238,447 | 4,967,000 | 128,993,000 |
| 1920–21 | 100,000,000 | 58,000,000 | 103 | 517,000 | 201,454 | 4,018,000 | 76,725,000 |
| 1921–22 | 100,000,000 | 58,000,000 | 107 | 560,000 | 200,970 | 4,411,000 | 68,893,000 |
| 1922–23 | 100,000,000 | 58,000,000 | 85 | 514,000 | 156,583 | 3,748,000 | 60,574,000 |
| 1923–24 | 100,000,000 | 58,000,000 | 86 | 517,000 | 121,214 | 3,122,000 | 58,670,000 |
| 1924–25 | 100,000,000 | 58,000,000 | 87 | 524,000 | 98,630 | 3,219,000 | 62,301,000 |
| 1925–26 | 100,000,000 | 58,000,000 | 94 | 608,000 | 124,773 | 3,867,000 | 66,391,000 |
| 1926–27 | 106,250,000 | 64,250,000 | 92 | 600,000 | 157,343 | 3,938,000 | 69,751,000 |
| 1927–28 | 106,250,000 | 64,250,000 | 94 | 612,000 | 161,187 | 4,124,000 | 72,897,000 |
| 1928–29 | 106,250,000 | 64,250,000 | 92 | 644,000 | 156,000 | 4,310,000 | 75,230,000 |
| 1929–30 | 106,250,000 | 64,250,000 | 102 | 730,000 | — | — | — |
| 1930–31 | 106,250,000 | 64,250,000 | 102 | 730,000 | — | — | — |
| 1932–33 | 106,250,000 | 64,250,000 | — | 850,000 | — | — | — |

The largest and most up-to-date ships of Japan, mostly oil-fuelled, are owned by this company.

It may perhaps be of interest to give further particulars of some of the more important of the ship units of the

N.Y.K. The chief ship of the company, the *Chichibu Maru*, which has a tonnage of 16,800, made its first voyage on the Japan-San Francisco line on March 30th, 1930, and up to the last months when the ship *President Coolidge* of the American Dollar line was floated, was the most rapid and the most modern ship on that line. It is fitted with oil engines. It is a special feature of the ship that a part of the cabins are fitted with Japanese furniture. A delightful swimming hall, theatre, etc., has made it one of the most popular ships running on the Pacific Ocean.

Its sister ships are the *Asama Maru* and the *Tatsuta Maru*.

On the Japan-Seattle route three new ships were put in commission by the company during the year 1930. Each of these has a tonnage of 11,000 tons, a length of 510 feet, a width of 66 feet and a draught of 41 feet. Their machinery, consisting of two sets of 2-stroke cycle Diesel engines, made by Messrs. Burmeister and Wain, are capable of developing under normal circumstances 11,000 h.p. Of the three ships, two, viz., the *Hikawa Maru* and the *Hyie Maru*, were built in the Yokohama docks of the company, whilst the third one, the *Hyian Maru*, was built in the shipyard of the Osaka Ironworks Company.

On the European line two sister ships were put in commission by the company during the year 1930. Each of these had a tonnage of 11,800 tons and is fitted with two sets of Sulzer-Diesel oil engines. Both ships are of the semi-cargo type and are capable, in addition to carrying a considerable quantity of goods, of accommodating 121 first-class, 68 second-class and 60 third-class passengers. An essential part of their equipment consists in their loading cranes, driven by noiseless electric motors, the comfort of passengers requiring that noisy loading and unloading during the passage should be avoided. The noiseless fans of the Punkah-Louvre type are also intended for the comfort of passengers during the long voyage over tropical seas. The ships are also fitted with hospital rooms, a moving picture theatre, a deck swimming bath, and wide airy promenade decks. Both ships (the *Terukuni Maru* and the *Yasukuni Maru*) are the very latest examples of the new principles of modern shipbuilding, namely, of the semi-cargo type of ship, which offers convenient accommodation to passengers in addition to being able to carry a considerable quantity of goods.

In addition to the ships, representing its most valuable assets, the company also possesses vast storehouses in Yokohama, Kobe, Nagasaki, etc. Its head office at Tokyo is one of the most valuable buildings of the capital.

On the Europe-American route the N.Y.K. cooperates with the Cunard Company. The two companies also have mutual agreements with regard to agencies : in many places of Europe and America the Cunard Line acts as agent for the N.Y.K., whilst in Asia the N.Y.K. represents the interests of the Cunard Line.

The second largest Japanese shipping company is the *Osaka Shosen Kaisha* (the Osaka Mercantile S.S. Company). The O.S.K. was founded in 1885 by the combination of 48 small shipping companies and shipowners. Its capital stock amounted to 1,210,000 yen, and it possessed a total stock of 93 small ships, representing an aggregate tonnage of 13,000 tons. At first the company had to struggle against financial difficulties, but since 1897 it has been subsidised by the Government and its financial equilibrium has, with the improvement of conditions, been restored. To-day the company possesses 134 ships of an aggregate tonnage of 525,000 tons.

During recent years the O.S.K. has handled a large volume of traffic and its receipts have, as shown on the table on page 161, been very considerable.

None of the ships owned by the company has a tonnage of more than 10,000 tons. Its most up-to-date ship is the *Buenos Aires Maru*, a 9,800-ton semi-cargo ship driven by Diesel engines. In 1928 the company showed a net profit of 4,106,000 yen as compared with the 3,850,000 yen of the preceding year. Regardless of increasing profits, the company maintains a very conservative dividend policy; in 1930 it considerably reduced the dividend paid, adding the difference to the reserve fund.

Of other important Japanese shipping companies, mention must be made of the *Kita Nihon Kishen Kaisha*, which in 1929 had a capital stock of 2,700,000 yen and was running 18 ships, transporting 78,000 passengers and 594,000 tons of goods. Its receipts in this year amounted to 3,670,000 yen.

The business results for the year 1929–30 of the *Nishin Kishen Kaisha* were: 248,000 passengers, 700,000 tons of goods and receipts amounting to 6·6 million yen.

| Year. | Capital stock. | Paid-up capital. | Number of ships. | Gross registered tonnage. | Number of passengers. | Quantity of goods transported. | Receipts. |
|---|---|---|---|---|---|---|---|
| | | | | | | Tons. | Yen. |
| 1918 | 50,000,000 | 37,375,000 | 153 | 303,295 | 2,200,000 | 5,898,000 | 155,540,000 |
| 1919 | 50,000,000 | 37,375,000 | 158 | 332,705 | 2,230,000 | 3,751,000 | 114,708,000 |
| 1920 | 100,000,000 | 62,500,000 | 170 | 401,559 | 1,930,000 | 2,823,000 | 81,032,000 |
| 1921 | 100,000,000 | 62,500,000 | 133 | 414,149 | 1,690,000 | 4,595,000 | — |
| 1922 | 100,000,000 | 62,500,000 | 133 | 432,377 | 1,740,000 | 4,938,000 | 47,452,000 |
| 1923 | 100,000,000 | 62,500,000 | 132 | 423,756 | 1,766,000 | 5,596,000 | 47,370,000 |
| 1924 | 100,000,000 | 62,500,000 | 134 | 438,022 | 1,920,000 | 6,380,000 | 53,147,000 |
| 1925 | 100,000,000 | 62,500,000 | 136 | 443,432 | 2,000,000 | 7,241,000 | 58,876,000 |
| 1926 | 100,000,000 | 62,500,000 | 133 | 448,270 | 2,143,000 | 8,010,000 | 63,399,000 |
| 1927 | 100,000,000 | 62,500,000 | 138 | 472,491 | 2,150,000 | 8,121,000 | 63,411,000 |
| 1928 | 100,000,000 | 62,500,000 | 137 | 525,000 | 2,106,000 | 51,039,000 | 63,286,000 |
| 1929 | 100,000,000 | 62,500,000 | 132 | 525,000 | 2,026,000 | 52,469,002 | 65,309,000 |

The capital stock of the company was 16,200,000 yen; it possessed 27 ships.

The *Nanyo Yushen Kaisha* in 1929 transported 181,000 tons of goods; its income was 1,660,000 yen. Its capital stock is five million yen.

In what follows we will say a few words about the most important ports of Japan. In 1930 the total number of ships arriving at Japanese ports was 18,818, representing a total tonnage of 58,482,840 tons; the number of ships which left the ports was 18,842, with a total tonnage of 58,325,000 tons.

The following table gives an account of the traffic of the more important ports:

| Name of port. | Number and tonnage of ships arriving during 1927. | | Traffic of port, expressed by the value of goods which arrived or left, in gold yen. | |
|---|---|---|---|---|
| Yokohama | 13,710 | 13,050,000 | 1,357,000,000 | (1928 figures) |
| Kobe | 20,686 | 21,460,000 | 1,509,000,000 | |
| Osaka | 15,916 | 14,072,000 | 703,000,000 | |
| Moji | 78,040 | 21,414,000 | 124,000,000 | |

In this table the figure given for the port of Moji with regard to the number of ships is rather misleading; the high figure is due to the inclusion of the passage traffic between Moji and Shimonoseki, where passage steamers of a tonnage of well under a hundred each pass sometimes fifteen times a day.

The three most important Japanese ports—Yokohama, Kobe and Osaka—have this feature in common, that all three are situated on the most important railway line of Japan, the Tokaido Railway, which may be considered as being the direct continuation of the Trans-Siberian Railway (see p. 329). In consequence there is the keenest competition between the three ports, although their respective geographical positions render them suitable for different functions; for instance, Yokohama is the port most suited to handle traffic from America, whilst Kobe and Osaka are more suited to handle the traffic with Europe and Asia. Owing to the fact that the ports are connected by the railway line referred to, and are, moreover, situated at a not too great distance from each other, Osaka (in which port the head office of the O.S.K. is also situated) handles a considerable proportion of American traffic also, whilst, on the other hand, Yokohama handles a considerable proportion of the European traffic. It is at this point also that competition between the railway and shipping is the keenest. (See p. 84.) Owing to these circumstances, the straight line connecting the three ports forms the backbone of the communication system of Japan.

Nearly 63 per cent. of the foreign trade of Japan is handled by these three ports. (In 1927 the aggregate value of goods imported into and exported from Japan amounted to 5,465,138,000 gold yen, of which the three ports came in for 3,624,000,000 yen.) In 1928 the extent to which the three ports named participated in the total foreign trade of Japan was as follows: Kobe, 36·2 per cent.; Yokohama, 32·5 per cent.; Osaka, 17 per cent. In this year the volume of foreign trade reached the figure of 4,168,000,000 gold yen.

After these preliminary remarks we must say a few words about each of the various important Japanese ports.

As regards *Osaka*, a great part of its turnover represents, in addition to the supply of the requirements of that city, which has a population of more than two million, the importation of the raw materials needed by industrial works in Osaka and the exportation of their semi-manufactured and manufactured products.

The import traffic of the port of Osaka with North America is very important (to the detriment of Yokohama), and reaches the figure of 100 million yen, *i.e.*, 33·7 per cent. of the total import traffic of Osaka. Import trade with China represents 16·61, that with British India 11·8, that with Australia 9·2 and that with Dutch Farther India 5 per cent.

The main articles imported, mostly worked up by the industrial works of Osaka itself, and the manufactured products sold in Japan and in China, were in 1928 as follows: Raw cotton to the value of 69 million yen, timber 33 million yen, iron and steel 23 million yen and wool 20 million yen.

The port was opened to foreign trade in 1903. In this year the foreign trade of Osaka suddenly rose to 18,400,000 yen as compared with the 635,000 yen of the previous year. To-day the total turnover is 707,312,000 yen.

In 1929 the number of ships which arrived at the port of Osaka reached almost 17,300, representing a total tonnage of 14,952,000 tons. The turnover of Osaka amounted in 1932 to 7,038,000 tons, *i.e.*, to 12·6 per cent. of the total turnover of Japanese ports.

The port is protected by a powerful breakwater of semicircular form. The ships are compelled to anchor at a considerable distance from the shore because the River Yodogava, flowing into the sea at this point, deposits very large quantities of mud which render the port shallow, though it is large in area. To the south of the present port, as well as to the east, large areas have been reserved for the construction of the new port. The construction of the port has cost roughly 100 million yen, and it occupies at present an area of 65,435 acres. The minimum depth of the port at ebb tide is 9 metres. A branch line leads to the port from the central railway station. From the ships at anchor in the port goods and passengers are shipped to a mole 454 metres in length.

*Kobe*, the most important port of Japan, is situated at a distance of 16 miles from Osaka. It is important as an outside port of Osaka, but also on account of its own industry and general position. It is connected with Osaka by the Tokaido line, and, in addition, by a number of local lines worked by electric traction. Besides, there is a great amount of local shipping traffic between the two ports.

The geographical position of Kobe is very favourable with regard to all the three main directions of traffic. The lines leading to America, Australia and Europe all meet here.

The main route leading from Yokohama to London runs across the Inner Sea of Japan, and through the Shimonoseki Straits; the ships running on this route accordingly touch the port of Kobe. The Kii Channel, which opens exactly opposite to Kobe, connects the Inner Sea with the Pacific Ocean, and owing to this Kobe is easily accessible for the ships plying on the Australian and American route as well.

Kobe has a very important industry, with nearly 1,500 industrial establishments. The number of banks is also very important.

Kobe is responsible for about 36·2 per cent. of the total foreign trade of Japan.

Osaka, which is developing very rapidly, is a powerful rival of Kobe, but owing to the proximity of the two ports it is not possible for a very keen competition to develop between them with regard to long-distance traffic. It should besides be remarked that, growing as they are, the two cities will no doubt unite sooner or later.

In 1928 the total traffic of the port of Kobe represented a value of 1,510,140,000 yen, of which exports amounted to 631,416,633 yen. In 1930 the number of ships visiting the port was 15,114. In 1929 the tonnage of the ships visiting the port of Kobe amounted to 24,803,000 tons, while in 1932 it was only 14,519,000 tons, 26 per cent. of the whole traffic of the country.

The port of Kobe and the town of Hyogo, built side by side with Kobe, occupy a total area of 1,715 acres. The depth of the port is sufficient even for ocean liners of largest draught, so that the ships are able to come up right to the quays. The port proper is fitted with six moles, around which the warehouses and storage buildings are arranged.

A system of sidings connects the port with the Tokaido Railway line. The port is protected by a breakwater of nearly 5 kilometres in length, divided into three parts. The products of the Kobe industry which are exported from the port are chiefly matches (to the value of about 10 million yen per annum), camphor, oil products and agar-agar, which has recently become rather important in pharmacy.

It is a very great drawback to the port of Kobe that the rocky line of mountains running parallel with the coast cuts off the port from its hinterland, which is connected with the port by a single railway line only.

In addition to all the regular lines to Europe, there call at the port the round-the-world liners of the Osaka

Soshen Kaisa, those of the N.Y.K. and the express line Kobe-Shanghai. In addition, Kobe is also the centre of the very highly developed coastal trade of the Japanese Inner Sea.

One of the most important ports of Japan is *Yokohama*. Yokohama serves as a seaport for Tokyo, which is the capital of Japan, and at the same time it is also the nearest Japanese port to America. Its traffic is therefore largely dependent on the state of the traffic from North America to Japan. It is the terminal, on the Asiatic side, of the two most important shipping lines crossing the Pacific Ocean, viz., of the Yokohama-Puget Sound (Seattle, Vancouver, Victoria), etc., line, and of the Yokohama-Honolulu-San Francisco line. It is also an important transit port between China and America.

Its traffic with Europe is of less importance. It is true that a great part of the ships sailing for Europe start from Yokohama, but these ships usually receive the greatest part of their cargo in Osaka and Kobe.

At present about one-third of the foreign trade of Japan passes through Yokohama.

In 1932 the traffic of the port was 9,957 tons, as compared to 10,272,000 tons in 1930 and 13,832,000 tons in 1929. This diminution is, however, only due to the general economical depression. In 1928 the value of goods imported was 614 million gold yen, whilst exports amounted in the same year to over 742 million gold yen. (The total quantity of imports through Japanese ports amounted in the same year to over 2,000 million yen, whilst exports amounted to 2,000 million yen.)

A detailed description of the port follows here: A large part of the port of Yokohama was rebuilt after the 1923 earthquake. The port, situated in the Bay of Tokyo and already shielded to a certain extent for that reason, is further protected by a breakwater of semi-circular form, open in the middle. In the inner port even ocean liners of deepest draught are able to anchor alongside the quay, thus enabling loading into the ships from railway cars, as well as unloading from the ships into railway cars, to be effected directly by mechanical means without either tugs or human labour having to be employed. The area of the port is 5 square miles, of which to-day about 3 square miles are surrounded by buildings, whilst the remaining 2 square miles are reserved for further development. An area of about 50 acres immediately adjacent to the port is reserved to the factories, thus enabling the products of the factories to be loaded direct into the ships from the works. The number of industrial establishments is at present 6,000 (mostly in connection with the silk and the sugar refining industry). Two direct double track railway lines have been laid between the port and Tokyo; the Tokyo terminal point of these lines is the Shimbashi goods station at Tokyo. Thus the Tokyo industry has also become directly interested in the interests of the port of Yokohama. The whole port is fitted with the most up-to-date type of safety appliances (fire extinguishers, oil pipes, etc.).

The port of Yokohama forms the starting-point or a point of call of the schedule sailings of the following more important companies: Japan-Seattle line and Japan-San Francisco line of the N.Y.K., Japan-China-Singapore-Colombo-Naples-Marseille and London line of the same company; Japan - Chile - Argentina line, Yokohama - London line of the Peninsular and Oriental (P. & O.) Company; Yokohama-Marseille line of the Messageries Maritimes; the cargo lines of the Norddeutscher Lloyd and of the HAPAG; the Puget Sound-California-Japan-China-Philippine Islands lines of the American Mail Line and of the Dollar Line; the Vancouver-Japan-Hongkong line of the Canadian Pacific Company, etc.

The importance of the port of *Moji* is a double one. It is, on the one hand, the Western Gate of the Inner Sea of Japan, and it is here that ships arriving from Europe first touch the Japanese ports. The port itself is situated on the southern coast of the Shimonoseki Straits, possessing a width of hardly more than 2 kilometres, and is one of the most important ports of the economically very important island of Kishu. It is also, together with the port of Shimonoseki opposite to it, the connecting port between Hondo (the main Japanese island) and the island of Kishu.

The traffic of the port of Moji reached, in 1930, 7,898,000 tons (" Statistisches Jahrbuch für das Deutsche Reich," 1931), and 6,876,000 tons in 1932. Japanese publications (" Résumé Statistique de l'Empire du Japon," 1930) put the amount of the traffic of the port of Moji in 1929 at 104,733 ships, with a total tonnage of 26,851,000 tons. The difference between the two data is evidently due to the fact that Japanese publications count the passage traffic between Moji and Shimonoseki as part of the total traffic of Moji. This passage traffic really represents a large proportion of the total traffic of Moji, and is the second reason for the high importance of Moji.

The quay of Moji is rather ill-constructed, so that long-distance ships of higher tonnage are unable to anchor alongside the quays and are compelled to anchor in the straits. From the point of view of the transhipment of goods, the port of Moji is not so important, seeing that all ships coming from or going to Europe call at the ports of Kobe, Osaka and Yokohama, and that it is there that most of the goods are loaded on or unloaded from the ships ; it is only in connection with passport, postal and sanitary services that Moji possesses particular importance. For these reasons the construction of a modern port, fitted with cranes and other mechanical loading and unloading devices, does not appear to be justified, because the island on which Moji itself is situated is economically of relatively minor importance.

The function of *Shimonoseki* greatly resembles that of Moji. Shimonoseki, which is situated opposite to Moji, is at the same time a point of passage to Korea, thus forming the junction point of the Trans-Siberian and Korean Railway coming from Europe and the starting-point of the Tokaido Railway line. (See p. 65.)

In 1929 the traffic of the port of Shimonoseki amounted to 121,902 ships, representing a total tonnage of 7,508,000 tons. If the number of ships alone were considered, it would be the Japanese port showing the highest figure of traffic, but, of course, a very large proportion of these ships represents ships negotiating the double passage traffic (Shimonoseki-Fushan (Korea) and Shimonoseki-Moji).

The port of *Fushan* (Korea) is an entrepôt port of very great importance; it is one of the most important terminal points of the railway line leading from Europe to the Far East, and it is, at the same time, one of the most important ports of Korea. Its traffic amounted in 1930 to 2,823,000 ship's tons.

The passenger traffic of the three last-named ports is relatively more important than that of the three first-named ports (Yokohama, Kobe and Osaka). It is a characteristic common feature of Moji, Shimonoseki and Fushan that they are ports of transit and important points of transhipment from ship to rail or *vice versâ.*

Passengers will always endeavour to reach the point of destination of their journey as quickly as possible; accordingly, a large number of the passengers of the ships arriving from Europe will usually leave the ships at Shimonoseki, for this enables passengers bound for Kobe or Osaka to shorten their journey by one day, and those bound for Tokyo by two or three days. Similarly, the majority of passengers bound for Europe or China will come on board at Moji or at Shimonoseki only.

*Dairen* (Dalnij) is the terminus of the South Manchurian Railway, a line of great importance, particularly from a strategical point of view. It is one of the most important ports for the export of soya beans. Its importance is rapidly increasing concurrently with that of Manchuria. It is a very powerful competitor to Vladivostok, compared to which it is in a much better position, being situated in a more southern latitude and in a more open position, and its port is accordingly free from ice in winter. The economic importance of Manchuria and of the Manchurian Railway, on which the future of Dairen depends, has been discussed in greater detail in Chapter II of Part II. The traffic of the port of Dairen amounted in 1928 to 6,288,000 tons. It should be noted that the new Chinese port now under construction, Hulutao, situated at the western end of the northern half of Liautung Bay, is being constructed with the object of diverting a large part of the Manchurian traffic to Hulutao ; if this actually happens, Dairen is bound to decline. (See in greater detail on p. 102.) It seems doubtful whether the new State of Manchuria, which is under Japanese influence, of which Jehol, where this port is situated, is a province, will continue with the construction of the port, because the occupation of Jehol by Japan is largely due to her fear of Hulutao's endangering the position of Dairen.

Between no two other ports in the Far East would there exist so fierce a competition as between Dairen and Hulutao. The new buffer State of Manchuria created by Japan (in March, 1932) may possibly create a new situation, traffic being now directed by artificial means to Dairen.

It should be noted that the port equipment of Dairen is of an entirely modern type. The construction of the town was begun by the Russians, and it was in consequence of the Russo-Japanese War that the town came under Japanese rule. From 1907 onwards it was developed so as to become one of the most up-to-date ports. The very extensive system of warehouses and of sidings leading to the quays enables it to handle the highest amount of transhipment traffic in soya beans. The port is protected by a breakwater of nearly 3 kilometres in length.

*Kiirun* is the most important port of the island of Formosa. In 1927 the total number of ships which entered and left the port was 1,994, representing a total tonnage of 5,784,000. Among the ports of the island of Formosa it is the one situated nearest to Japan, and it is also close to Taihoku, the capital of the island, with which city it is connected by a railway line. (The distance is about 20 kilometres.)

*Nagasaki* should also be mentioned as an important port, particularly with regard to traffic with the Chinese coast opposite (5,556 ships, of a total tonnage of 2,383,000 tons). Nagasaki is also one of the centres of the Japanese shipbuilding industry.

The Bonin Islands, a Japanese possession, possess importance with regard to the transit trade with Australia. In addition to the ports enumerated, Japan possesses more than 1,450 ports, which number, however, of course, includes all the fishing and salvage ports. The number of naval ports was, in 1931, four.

In order to complete the picture drawn of Japanese maritime shipping, a few words must be said about some institutions closely allied to the Japanese shipping industry.

First of all, shipyards must be considered. The Japanese shipbuilding industry is very important. The number of ships constructed in Japanese shipyards in the years following the War is shown on the table published on p. 143.

One of the most important Japanese shipyards is that of the Mitsubishi Shokai Kaisha (the Mitsubishi Engineering Company), which possesses docks in Nagasaki, Kobe and Yokohama. The two new motor ships of the N.Y.K., the *Yasukuni Maru* and the *Terukuni Maru*, were constructed at the Nagasaki shipyard.

The Kawasaki Company has its main shipyard at Kobe (3,000 hands).

The total number of shipyard docks was, in 1927, forty-six, to which must be added one floating dock.

With regard to safety equipment in connection with shipping, it must be mentioned that in 1928 there was in Japan a total number of 428 lighthouses and buoys.

It appears from what has been set forth above that the future of Japanese shipping depends on the future of tramp and charter shipping.

In a recent German work ("Die Wirtschaftskräfte der Welt, herausgegeben von der Dresdner Bank," Berlin, 1930, p. 160), pessimistic conclusions are to be found with regard to the future of tramp shipping. According to this book, increasing quantities of raw materials are nowadays being worked up at the place where they are produced, and thus tramp shipping, the object of which is to transport raw materials and semi-manufactured products far and wide, will in future lose its importance.

We cannot share this opinion, for the reason that the protective tariff system still ruling in the world at present will, in order to protect home industries, permit the importation of raw materials only, and therefore the countries producing raw materials will be compelled to sell their products in their original form, because otherwise they would be unable to sell them at all, whilst, on the other hand, tramp shipping can make the necessary arrangements for the transport of manufactured products just as well as for that of raw materials. Accordingly the future of Japanese sea shipping appears to be assured.

In its issue of February 22nd, 1932, the *Japan Times*, Overseas Edition, states that at that time Japanese tonnage of about 372,390 tons was idle. In 1931 the laid-up tonnage amounted to 343,000 tons; in 1930 to 90,000 tons. In the summer of 1932 the empty tonnage amounted to 5 per cent. of the commercial fleet, *i.e.*, to about 85,000 tons. This represents at present a very favourable proportion as compared to that in other countries. Compared to the figures of idle tonnage of other nations, this figure is not very high.

The writer of the article states that he considers the increase of the figure of idle Japanese tonnage to be due to the events at Shanghai. He also mentions that the charter rates have increased, as there is a hope that conditions will improve in the near future.

It should be mentioned here that in 1928 the Japanese mercantile fleet comprised ten oil tankers, having a total tonnage of 34,000 tons.

In 1930–31 the Japanese mercantile fleet was subdivided as regards traffic with various economic territories as follows :

| | | | |
|---|---|---|---|
| Traffic with North America : | 118 | ships having a total tonnage of | 807,000 |
| „ „ Europe : | 39 | „ „ „ „ | 302,000 |
| „ „ India : | 55 | „ „ „ „ | 292,000 |
| „ „ Northern China : | 88 | „ „ „ „ | 283,000 |
| „ „ Formosa : | 67 | „ „ „ „ | 246,000 |
| Coasting traffic : | 330 | „ „ „ „ | 760,000 |

The remaining tonnage belongs to small ships and tramp ships.

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# CHAPTER V

## Chinese Maritime Shipping

Chinese national maritime shipping, in the proper sense of the word, really does not exist. Although the length of the sea-coast of China amounts to nearly 4,500 miles, and the country possesses an abundance of good ports at the river mouths and at other places, it has been for two reasons impossible for Chinese maritime shipping to develop properly.

One of the reasons is the financial condition of the country, as described in Chapter I of the first part, which does not permit to the State of China to establish or support a shipping company.

The second and the more important reason is that a Chinese maritime shipping company would have to face the competition of foreign shipping companies, against which it would certainly not prevail.

European, American and Japanese shipping companies which possess capital as well as ships, the value of which has already been written off, which are still in completely good condition, have now for decades been handling goods traffic between China and all parts of the world, and are to-day the masters of the long-distance shipping of China. Also, in view of the fact that there exists no kind of cartel between the shipping companies either on the China-Europe (Suez) or on the China-America (Puget Sound and California) lines, merchants of various nations prefer to have their goods transported by ships of their own nationality, whilst Chinese merchants have also now for many years been shipping their goods by foreign, mainly British, shipping companies, so that under these circumstances no Chinese long-distance maritime shipping company, whether State-subsidised or owned by a limited company, is likely to be able to overcome the difficulties of a new beginning. Owing to the reasons explained on p. 27, namely, that there exists to-day no internal formation of capital in China, it is impossible to find a sufficient number of Chinese shareholders to establish a maritime shipping company. Even the establishment of a privately owned shipping line would only be possible by the aid of foreign capital, which, apart from the fact that in this case the shipping company would no longer be a Chinese one, is not available in view of the general credit crisis and the frequent crashes of maritime shipping companies, owing to which money invested in maritime shipping companies has ceased to be a safe investment.

Under these circumstances the ships sailing under the Chinese flag are only engaged in coasting traffic between the various ports of China ; most of these ships are owned by a number of important Chinese firms of merchants in Shanghai, Hankow and Canton.

The only maritime shipping company which may be called Chinese is the China Merchants Steam Navigation Company, founded mainly by Chinese merchants of Shanghai to deal with the Chinese coastal traffic and with the traffic on the River Yangtze-kiang. The company possesses ships suitable for this purpose (of a total tonnage of 50,000 tons), the individual tonnage varying between 1,200 and 3,700 tons. In April, 1929, the number of the ships owned by the company was twenty-five, of which nine were of the twin-screw type.

The company maintains sailings on four lines :

1. The goods and passenger line Shanghai-Hankow (Yangtze-kiang line);
2. The Shanghai-Tientsin line (fortnightly sailings);
3. The Shanghai-Foochow line ; and finally,
4. The Shanghai-Hongkong line.

The last-named lines are for the coasting trade, mainly for goods traffic, with a limited amount of passenger traffic.

In spite of all these facts, Chinese maritime shipping has some progress to show, which is due to a great extent to the fact that during the last fifteen years inland shipping of goods has, owing to the internal unrest, become more than unsafe. In 1913 *Lloyd's Register* put the tonnage of ships over 100 tons sailing under Chinese flags as amounting to 86,690 tons. In 1930 the same publication puts this figure at 319,315 tons, and on June 30th, 1931, at 333,256 tons. These ships engage, with few exceptions, in coastal traffic only, whilst long-distance voyages are undertaken by Chinese ships on very rare occasions. (For instance, no Chinese ship passed through the Suez Canal in 1930.)

In China accordingly we see exactly the reverse of what is the case in Japan. Chinese export trade is to-day handled by foreign shipping companies exclusively, mainly British firms such as Jardine, Mathisson & Co., and Butterfield and Swire, and these also control a great part of the coastal and river shipping (see Chapters II and VII of the present part), whilst Japan has created its own powerful maritime shipping which competes with the ships of other nations also outside Japan (and thus with others also in China). Japan is keenly interested in the Yangtze-kiang River shipping and in the Chinese coastal shipping through the Nishin Kishen Kaisha Company. (See p. 161.)*

As appears from the table published below, an overwhelming part of the traffic of the Chinese ports is represented by the ships of foreign shipping companies, of which more will be said in Chapter VII of the present part (Foreign Shipping in the Far East).

Here we can only publish such data, specified below, as bear on the traffic of the Chinese ports.†

The Chinese ports were touched in 1929 by 186,514 vessels (junks included), representing a total tonnage of 155,557,910 tons, of which 150,200,000 tons represent ships and only 4,400,000 junks. (The figures are approximate.)

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* Twenty-seven per cent. of the inland river shipping of China is dealt with by Japanese ships. (See the article of W. M. Alexander in the June publication (No. 281) of the *Carnegie Institute.*)

† Source of information used, *Journal des Économistes*, July-December, 1931. Alcan, Paris.

Of these, 57,926,507 tons were ships sailing under the British flag, 42,349,647 ships sailing under the Japanese flag, and 6,653,000 ships sailing under the American flag. These figures refer to maritime as well as river port shipping, for in China, owing to both these kinds of shipping going on on the Yangtze-kiang (for instance, Shanghai and Hankow), it is impossible to differentiate these two kinds of shipping from each other.

The publication from which these figures are obtained states the volume of traffic of those ports which are exclusively seaports (it is not stated which ports are understood hereby) as amounting to the following figures: British ships about 17,600,000 tons, Japanese ships 16,500,000 tons, American ships four million tons, as against which the quantity of goods transported by Chinese ships amounted to 4·5 million tons only. During the year 1930 Chinese ports were touched, according to the 1932 edition of the "Statesman's Year-book," by 180,981 ships, representing a total tonnage of 155,506,000 tons. Of the total number of ships, 49,402 ships (57,246,927 tons) represent British and 33,755 ships (45,630,705 tons) Japanese ships.

Whilst Chinese long-distance maritime shipping has not been able to develop, owing to the reasons outlined above, another important branch of maritime shipping, namely, the coastal trade, has attained great importance along the Chinese coast.

The active development of the Chinese coastal trade is due to various causes. First of all the configuration of the Chinese sea-coast, which has a length of 4,500 miles, is very favourable for coasting, because a relatively large number of ports, fed by a "hinterland" capable of production and consumption and not possessing any railway lines, are found along the coast. Goods traffic between such ports and other regions has therefore to be dealt with by coasting ships.

Shipping on the River Yangtze-kiang will be discussed in greater detail in Chapter VI of the present part. Here we can only remark that owing to the fact that for a length of nearly 1,000 kilometres (as far as Hankow) the Yangtze-kiang River is navigable for sea cargo ships of considerable size (4,000–5,000 tons), the Chinese coastal trade extends thus far into the inland regions of the country, a condition of things which has practically no parallel elsewhere.*

The main reason, however, for the increase of coastal traffic during the last decades is to be found in the fact that during recent years goods and passenger traffic on the Chinese railways was uncertain and disturbed, and, in fact, on some lines was stopped altogether for a considerable time owing to civil disturbances. (See also Chapter III of the present part.) To this should be added the conditions in which Chinese railways found themselves, as described in Chapter III of the present part, the examination of which led us to the conclusion that, owing to their neglected permanent way, defective rolling stock, etc., the Chinese railways are unable to satisfy those requirements (safety, speed, keeping of time schedules, systematic character of traffic) necessary in order to enable regular goods and passenger traffic to develop on the lines of a railway company.

Owing to the fact that the civil disturbances mentioned above have, during recent years, assumed such large proportions along the two Chinese railway lines running from north to south, *i.e.*, parallel with the sea-coast (viz., the Peiping-Hankow and the Tientsin-Pukow-Nanking-Shanghai lines), the traffic was stopped for a considerable time on these lines. (See p. 124.) Goods traffic between north and south, as well as the goods sent up the Yangtze-kiang into the inner regions of China or brought from there, is to a large extent handled by coasting ships. Accordingly, the Chinese sea-coast represents the most important area of Chinese shipping, as is proved also by the figures published below. The fact that, in addition, the cost of shipping by water is generally though not always less than the cost of railway transport, furnishes another but less important reason for this. The importance and development of Chinese coastal shipping is well illustrated by the figures of the value of goods traffic between the port of Shanghai and the other ports of China :

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* As explained in greater detail on p. 193, the goods from the whole valley of the Yangtze-kiang accumulate in Hankow and in Ichang, and to a smaller extent in Shanghai. Similarly, imported goods intended for the Yangtze-kiang valley arrive in these ports. The fact of the river being navigable for sea ships as far as Hankow makes river-shipping on this section unnecessary, its function being taken over by maritime shipping, namely, mainly by coasting ships.

| Value of goods imported in Haikwan taels. | Year. | Value of goods exported in Haikwan taels. |
|---|---|---|
| 315,500,000 | 1924 | 438,000,000 |
| 364,000,000 | 1925 | 423,500,000 |
| 404,300,000 | 1926 | 518,400,000 |
| 348,200,000 | 1927 | 447,000,000 |
| 397,500,000 | 1926 | 509,500,000 |

The period between 1924 and 1928 is particularly suitable for comparisons, because, on the one hand, at that time the Haikwan tael had not yet depreciated to any considerable extent, and therefore the increase in the value of goods traffic represents a real increase and not merely a consequence of the depreciation of the currency, and because, on the other hand, in the period after 1928 there have been hostilities on a larger scale in Manchuria and near the Tientsin-Hukow Railway line, which, whilst they have probably still further increased coastal traffic, are perhaps illustrative of a too abnormal period. (See "Trade Return of North China and Shanghai," 1928, Research Office, Department of Welfare and Foreign Affairs of the S.M. Railway Company.)

If Chinese maritime shipping be considered as consisting of coastal shipping exclusively (and, in fact, this is almost the case), we may say that of the 186,382 ships which in 1924 visited the ports of China (including junks) which possessed a total tonnage of 141,433,000 tons, Chinese ships represented 44,806 ships with a tonnage of 29,418,000 tons, whilst Chinese junks participated in the traffic to the extent of 49,950 units, representing a tonnage of 3,870,000 tons. For the year 1930 the data are as follows: 180,981 ships with a total tonnage of 155,605,954 tons, of which the number of junks was 45,755, representing a tonnage of 3,901,000 tons. Of the total number of ships in 1928, amounting to 186,850 with a tonnage of 152,630,000 tons, Chinese ships only represented 51,259 units with a total tonnage of 33,044,000 tons.

These figures also illustrate the preponderant *rôle* played in the Chinese ports by ships sailing under foreign flags.

In what follows we will say a few words about some of the Chinese ports. Of these, Shanghai is to-day still the most important, being situated at the most important gateway of Middle China, at the mouth of the River Yangtze-kiang, and, at the same time, on one of the most important shipping lines of the world (the Suez line), occupying an important position on this line. It is also the starting-point of a large number of Trans-Pacific lines.

The port is really formed by the bed of the River Wang-po, situated at a distance of about twenty miles from the estuary of the Yangtze-kiang. It is only twice a day (at high tide) that ships are able to pass over the sandbank formed at the mouth of the river, the growth of which is being prevented by means of dredging. Ships are unable to approach the quay itself, which makes loading and unloading more costly and difficult. The depth of the River Wang-po is 30 feet, the depth of water at the sandbank, at high water time, 28 to 30 feet.

The figures given in the table on page 181 illustrate the traffic of the port of Shanghai, which handles 40 per cent. of the marine traffic of China.

The figures include the junk traffic. The figures for the year 1931 represent the traffic of the first six months of 1931 only. The headings of imports and exports include coastal traffic as well as long-distance maritime traffic.

As appears from the table below, the quantity of goods exported from Shanghai nearly equals that of the goods imported into Shanghai. It appears from this that the port of Shanghai does not deal exclusively with ports or exports, but is a so-called transit port through which flows the goods traffic of an economically very important region, namely, the Yangtze-kiang valley. About 40 to 60 per cent. of the annual traffic represents coastal shipping, which is a very high proportion of the total volume of traffic of a port. In 1930 about 43 per cent. of the total foreign trade of China, namely, trade amounting to £87,532,000, passed through Shanghai.

| Year. | Total traffic. | | Imports. | | Exports. | | Coasting. | |
|---|---|---|---|---|---|---|---|---|
| | Number of ships | Tonnage | Number of ships. | Tonnage. | Number of ships. | Tonnage. | Number of ships. | Tonnage. |
| 1924 | 20,492 | 32,305,000 | 9,425 | 16,117,810 | 11,070 | 16,187,609 | 15,845 | 15,123,774 |
| 1925 | 19 861 | 32,804,850 | 8,747 | 15,079,867 | 11,210 | 15,204,988 | 15,292 | 13,817,009 |
| 1926 | 22,686 | 33,323,500 | 9,258 | 16,701,374 | 13,428 | 16,622,046 | 17,375 | 14,782,822 |
| 1927 | 21,514 | 30,151,650 | 8,355 | 14,941,963 | 13,061 | 15,209,690 | 16,955 | 13,305,589 |
| 1928 | 22,268 | 34,586,400 | 10,220 | 17,276,897 | 12,042 | 17,309,504 | 17,769 | 17,544,805 |
| 1929 | — | 35,797,000 | — | — | — | — | — | — |
| 1930 | — | 37,025,000 | — | — | — | — | — | — |
| 1931 | — | 18,604,000 | — | — | — | — | — | — |
| 1932 | — | 16,300,000 | — | — | — | — | — | — |

Recently, since the economic and political centre of gravity of China has shifted to the Yangtze-kiang valley, Hankow has become the most formidable competitor of Shanghai. Hankow is a first-class mercantile seaport, although it is situated at a distance of 1,000 kilometres from the mouth of the Yangtze-kiang.

Sea ships are able to sail up the river as far as Hankow, and it is there also that the goods coming by river boats and junks from the upper course of the Yangtze-kiang and from its tributaries are transferred to sea ships. Thus Hankow is to-day the transit port of the goods coming from and going to the provinces of Hupei, Hunan, Setchwan and Kwei-tchou. These provinces, for which the Yangtze-kiang and its tributaries represent the only route of communication connecting them with the sea and thus with the rest of the world, are the richest regions of China, the natural resources of which are still unexploited. The importance of Hankow is accordingly likely to grow still more rapidly in the future. The importance of the town is also increased by the fact that it is at Hankow that the Yangtze-kiang is crossed by the most important land communication route of China, running from north to south, viz., the Peiping-Hankow-Canton-Kowloon (Hongkong) Railway, the economic importance of which will only become fully apparent when its last section, which has still to be completed, is opened to traffic. (See also p. 124.)

The port of Hankow is formed by the Yangtze-kiang itself, which has here a width of 1·5 kilometre. Ships are able to anchor immediately alongside the quay, at the moles ; the length of the quays exceeds 5 kilometres. It is a great drawback to the port that it does not possess the necessary railway track system and that no bridge runs across the Yangtze-kiang, so that communication between the two parts of the city situated on the two shores of the river has to be effected by means of ferryboats. Originally these were three cities, Hankow, Hanyang and Wuchang, which form now, however, one economic unit.

The development of the traffic of the port of Hankow is seen from the table given below :

| Year. | Value of imported goods in Haikwan taels. | Value of exported goods in Haikwan taels. | Goods imported from Chinese ports by coasting vessels. | Goods exported to Chinese ports by coasting vessels. |
|---|---|---|---|---|
| 1924 | 186,942,000 | 153,118,000 | 126,000,000 | 138,361,000 |
| 1925 | 199,305,000 | 155,000,000 | 145,300,000 | 135,123,000 |
| 1926 | 180,885,000 | 167,690,000 | 126,500,000 | 152,418,000 |
| 1927 | 126,532,000 | 127,190,000 | 107,600,000 | 118,455,000 |
| 1928 | 199,215,000 | 178,290,000 | 149,000,000 | 158,297,000 |

It appears that coastal shipping, which of course includes traffic with other river ports along the Yangtze-kiang, for instance, Ichang, comes in for a considerable proportion of the total traffic of the port of Hankow. Apparently, there is a tendency for exports to increase at the expense of imports. This, however, is deceptive, seeing that the majority of foreign goods are unloaded at Shanghai and are thence transported to Hankow. In the statistical tables these quantities of goods figure as goods brought from other Chinese ports, and this has a rather misleading effect. Similarly, the goods despatched from Hankow *viâ* Shanghai are also recorded in a similar manner, so that the small difference between the two figures represents the goods which have travelled to Hankow without touching Shanghai. As the coasting ships will naturally in most cases transport goods for Shanghai also, they will, when sailing from or to Hankow, be compelled to touch Shanghai as well.

The ship and tonnage traffic of Hankow is as follows :

| Year. | Long-distance shipping. | | Coastal shipping. | | Total. | |
|---|---|---|---|---|---|---|
| | Number of ships. | Tonnage. | Number of ships. | Tonnage | Number of ships. | Tonnage. |
| 1924 | 364 | 972,021 | 13,614 | 7,208,993 | 13,978 | 8,181,014 |
| 1925 | 424 | 1,057,117 | 13,603 | 6,805,614 | 14,027 | 7,862,741 |
| 1926 | 278 | 842,258 | 12,881 | 6,844,080 | 13,159 | 7,686,338 |
| 1927 | 166 | 342,990 | 9,292 | 4,260,496 | 9,458 | 4,603,485 |
| 1928 | 398 | 1,166,800 | 13,862 | 7,803,199 | 14,260 | 8,868,999 |
| 1930 | — | — | — | — | — | 8,056,000 |

Of other Chinese ports, we must mention Canton, on whose traffic the proximity of Hongkong exerts a very unfavourable influence. The traffic dealt with is mostly coastal traffic. (In 1928 the total imports and exports of Canton amounted to 200,951,000 Haikwan taels, of which coasting trade was responsible for 87 million Haikwan taels.) The overwhelming part of the trade of Canton passes through Hongkong, with Hongkong merchants acting as middlemen. In the year 1928, mentioned above (200,951,000 Haikwan taels), 111,057,000 Haikwan taels represented the trade with

Hongkong, which is carried on of course to a great extent by the coasting vessels. (See " Trade Return of North China, Shanghai, Hankow and Canton," 1928.)

Owing to the fact that the port of Tientsin has now for some time been almost entirely idle, due to reasons connected with internal politics, the Chinese have begun to construct a new artificially created harbour called *Hulutao* to deal with the Manchurian traffic to the detriment of the port of Dairen. The main advantage of this port would have been that, situated as it was on the Peking-Mukden railway line, it would have withdrawn the trade from the South Manchurian " Japanese " railway line. (See p. 98.) Recent events in Manchuria, in the course of which this region has come entirely under Japanese influence, have sealed the fate of Hulutao also.

We most also mention *Hongkong*, a city under British rule, which is one of the most important *entrepôt* ports of the Far East and the gateway of Southern China. Situated on a number of world routes (Far East-Suez-Europe, North China-Southern Pacific Ocean-Australia) and being, moreover, the starting-point of the routes between the Far East and North America (Puget Sound, California and Panama lines, see Part III, Chapter I), and handling, as it does, a considerable traffic to South America, the volume of its traffic is increasing rapidly.

Hongkong is a free port. The only duty payable by goods imported is one of 2 cents per ton, which is insignificant.

The importance of Hongkong has increased rapidly since the opening of the Suez Canal, as appears from the table on page 185.

The diminution of the number of ships during the latter decades of last century is due to the employment of ship units of greater size, as is seen from the fact that the figure of total tonnage is continually increasing (excepting the year 1919, which still forms part of the War period). Hongkong is able to show increases of traffic at the expense of Canton ; for instance, granite for the construction of roads and dwelling-houses in Canton is being shipped *viâ* Hongkong.

The port of Hongkong, formed by the bay extending from the island of Victoria to the peninsula of Kowloon, is one of the most protected in the Far East. Its depth is between 5 and 9 fathoms, and its area one square mile (without counting the proposed new territory called the "Praya Extension"). The ships are not able to moor alongside the quay, but are anchored on buoys in the bay.

Hongkong itself is not important as a consuming territory (its population amounts to about 1,145,000), but as the gateway of Southern China its importance is very great. This will become still greater as soon as the Canton-Peking railway line is completed, which will be the case very soon. This will increase the hinterland and thus the area of attraction of Hongkong. Hongkong is the most important ship repair port of the Far East.*

| Year. | Export trade. | | Import trade. | | Remarks. |
|---|---|---|---|---|---|
| | Number of ships. | Tonnage | Number of ships. | Tonnage. | |
| 1871 | 34,550 | 3,360,000 | 28,635 | 3,159,519 | — |
| 1881 | 27,553 | 4,533,400 | 27,051 | 4,475,820 | — |
| 1891 | 27,159 | 6,773,240 | 26,953 | 6,768,918 | — |
| 1907 | 23,835 | 11,520,000 | 23,820 | 11,512,223 | — |
| 1912 | 22,987 | 12,100,000 | 23,665 | 12,170,035 | — |
| 1919 | 15,052 | 9,224,000 | 16,586 | 9,570,825 | — |
| 1921 | 9,010 | 12,095,213 | 9,001 | 12,069,913 | — |
| 1926 | 30,231 | 28,371,104 | — | — | Export and import trade |
| 1928 | 52,278 | 37,641,000 | — | — | ,, ,, ,, ,, |
| 1930 | 49,609 | 40,511,000 | — | — | ,, ,, ,, ,, |

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* The most important docks of Hongkong are owned by the Hongkong & Whampoa Co. Their capital stock is 3 million Hongkong dollars (in 1924); they build and repair each year, on the average, 17,000 ships. The company possesses eight separate docks, of which the largest is the Kowloon Dry Dock, No. 1 (720 × 86 × 30 feet). In addition, the firm already mentioned repeatedly, Messrs. Butterfield & Swire, also possess docks (one of them is 750 × 88 × 31 feet); so do a number of smaller companies; the British Navy also. (See in greater detail, Japanese Government Railways: "Guide to China," 1924, p. 369.)

As an *entrepôt* port the importance of Hongkong is very great. It is to be regretted that no statistical data are available for recent years, because, under the influence of the boycott on British goods proclaimed in 1927 by the Chinese Government at Canton, the British authorities at Hongkong have prohibited the publication of statistics concerning goods traffic. Shipping fees exist in China also, although they are really not justified, because modern port equipment, for the maintenance of which they are intended, is wanting. The fees amount to 4 "mace" (= 0·4 H.K.W. taels) per ton, payable by all ships of a tonnage exceeding 150 tons calling at the free ports.

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# CHAPTER VI

## INLAND RIVER NAVIGATION IN THE FAR EAST

JAPAN being a country which has a very indented coastline, and which is also very mountainous, possesses no rivers suitable for navigation. As the sea is relatively very near even to the most inland points, the rivers have no tributaries to increase their volume of water and thus render them suitable for navigation by ships of more considerable draught. Besides, owing to the mountainous character of the country, the rivers keep the characteristics of their upper courses (the formation of torrents, whirlpools, ravines, etc.) unchanged nearly throughout their whole length, so that only by very costly river regulation work would it be possible to make them suitable for river navigation.

In the following pages, dealing with the construction of canals, we will explain in detail the conditions necessary for such construction. The same conditions also apply to the work of rendering rivers navigable, seeing that the work of regulation, dredging, etc., is very costly. Owing to these circumstances, it was only by expensive regulation work that some of the chief Japanese rivers could be made navigable, and that for a very short section of their course. There is only one river in Japan which does not require any regulation work, viz., the Yodogawa, which flows from Lake Biwa down to the sea. Nor do we find ship canals of any importance in Japan. (The canal systems crossing the towns of Tokyo, Yokohama and Osaka are merely the river mouth regulations of the rivers Sumidagawa and Yodogawa.)

The absence of ship canals is due partly to economic and partly to natural reasons.

It is a well-known fact that the construction of ship canals is a paying proposition only where some important economic centre (a large industrial or commercial town or some economically important territory) has to be connected either directly with the sea or with some large navigable river. An example of the first kind of canal referred to is the ship canal between Liverpool and Manchester, whilst the Welland Canal (Canada) or some of the canals of France are examples of the second type. Less frequently it happens that an artificial canal is constructed in order to shorten the waterway (as, for instance, in the case of the Göta Canal in Sweden).

In every case the construction of a ship canal nowadays is undertaken because of the relative cheapness of transport by water as compared to the relatively higher cost of transport by rail. (This does not apply to canals which, like the Göta Canal, were built when, for lack of a suitable railway system, the major part of goods traffic necessarily had to be dealt with by river and maritime shipping.)

The calculations with regard to profits to be expected will prove correct in that case only if the products of the important economic region in question (which may be a large city, an industrial region or an important centre of agricultural production) really are shipped to the territory of consumers, or at least substantially nearer to it, by the ship canal in question.

In addition to this, another point which must be observed is that the cheapness of the waterway as compared to railway transport increases in proportion to the distance covered, particularly in the case of most agricultural products and raw materials. The construction of ship canals for small distances will pay only where the traffic between the two points is particularly intense (Manchester-Liverpool).

Applying these general principles of communication policy to Japanese conditions, it appears that the more important industrial and commercial towns of Japan (Tokyo, Yokohama, Osaka, Kobe, Nagasaki) are without exception sea ports, and some of them—as Tokyo and Yokohama, Osaka and Kobe—are situated very near to each other. As there are natural means of communication by water between these towns, the construction of artificial waterways is unnecessary.

From an agricultural point of view, the more important regions of Japan are the level regions situated immediately to the north of Tokyo, the region of Toyama Bay, the region about Nagoya and its sea-coast, and, finally, the shores of the Inner Sea of Japan. (See the map appended to the book, "Arable Land Census of Japan Proper," published by the Imperial Statistical Institute of Japan.) It is in these regions that the main part of the land capable of agricultural utilisation (exceptions, the regions used for the purposes of forestry) is situated. As may be seen, these territories also are either situated immediately along the sea-coast, or at least not far from it. It is clear, therefore, that for economic as well as natural reasons the construction of ship canals is not a paying proposition in Japan, particularly when it is considered that Japan, as shown by a glance on the map, is a country mainly consisting of mountainous regions, where the construction of canals is always more expensive than on level land.

To all this should be added the special configuration and indented character of the coastline of Japan, in consequence of which the seaboard can be reached from any part of the country in a few hours. Thus the principle explained above, according to which the construction of ship canals rarely pays for small distances, finds here its fullest application. Canal and river shipping is replaced in Japan by coastal shipping, which has been discussed in greater detail on p. 155.

The only ship canal existing in Japan, the so-called Biwa Canal (connecting the Biwa Lake with the River Kamogawa passing through Kyoto), is valuable from a tourist's point of view only. The canal passes through three tunnels. The construction of the canal cost 1,500,000 yen and was carried out during the years 1885–90. Its length is 7·5 miles. The difference in level is corrected by a sluice. The fall of the water of the canal is utilised for generating the current for the electrical lighting of the town of Kyoto.

Although the country possesses a large number of lakes, shipping on these serves only local purposes and possesses importance from the tourist's point of view only. (Biwa Lake, Tshuzendi Lake near Nikko.)

The River Yalu, flowing along the Korean frontier, although of sufficient depth and width to be navigable by steamships, has no real economic importance, because the traffic of the products from the regions through which it flows (Korea and Manchuria) is directed to special export ports (as, for instance, Dairen, which is the most important export port for soya beans) by means of railway lines specially built for this purpose (South Manchurian Railway). Besides, the Yalu River flows towards these regions, *i.e.*, in a contrary direction.

The system of inland waterways of China is (owing to the much larger area of the country) much more important than that of Japan, and it also possesses increased importance for goods traffic owing to the absence of other means of communication.

As will be shown later, the natural waterways of China are connected by China's system of artificial waterways (canals) and thus China possesses a first-class system of inland waterways which has at all times played an important part in the economic life of the country, as it enables goods and passengers to be transported by water in all directions from all districts.

In view of the fact that, towards the west, China is separated from the rest of the world partly by mountainous regions through which traffic is either impossible or very difficult (like the highlands of Thibet), and partly by the Mongolian deserts, through which only one caravan road leads into Russia, which to-day is economically a rather isolated country, Chinese goods traffic will always be directed towards the east, *i.e.*, towards the sea-coast, and, similarly, goods imported will also enter the country from the sea-coast and travel in the westward direction. The natural waterways of China also favour this direction of traffic, the most important rivers flowing from west to east.

On the other hand, main routes of communication from north to south, intersecting the rivers flowing eastward and thus connecting them, were formerly lacking in China. This deficiency has been remedied by the Great Canal, and in recent times by certain railway lines.*

The Great Canal runs parallel to the sea-coast, but at a sufficient distance from it to ensure only a limited amount of competition with regard to goods traffic between shipping on the Great Canal and coastal shipping.

It is only a relatively small part of the inland waterways of China which is navigable by steamships, this being due partly to the absence of regulation and the consequent irregular flow of some of the rivers (Hoang-ho), and partly to the numerous whirlpools and waterfalls which cause difficulties on the upper courses of the rivers (upper section of the River Yangtze-kiang).

The navigable waterways of China are shown on the table on page 192.

It appears from this table that of the total length of the waterways of China, only about 2,429 miles, *i.e.*, 18·34 per cent. of the total length of the system of waterways, are navigable by means of ships. In the table those river sections which are not navigable for other kinds of craft are marked "Navigable by junks." This is, of course, slightly misleading, as naturally junks are able to circulate also on the river sections navigable for steamships or steam barges.

We shall return to the question of junk shipping in greater detail later. (See p. 198, and *passim.*)

The most important natural waterway of China is the Yangtze-kiang. The main river and its navigable tributaries represent a total length of waterway of 10,192 miles, of which 1,948 miles are navigable by steamships. The Yangtze-kiang and its tributaries, forming a self-contained system, are the means of connecting a considerable portion of the middle part of China with the world's traffic, because it is through the Yangtze-kiang and its tributaries that the products of these regions reach the consumers and that their requirements are provided for. It is by means of the Yangtze-kiang that the districts of Inner China communicate with the great Chinese plain and with the sea-coast. The importance of this last-named circumstance is increased by the fact that the Yangtze-kiang is navigable even for sea ships of considerable size for a length of about 1,000 miles up from the river mouth; consequently river, coastal and maritime shipping all operate on this section. This will be discussed in greater detail below. Data concerning the river system of the

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* The Peking-Hankow-Canton and the Peking-Tientsin-Pukow-Nanking line.

| Navigable rivers. | Navigable by steamships. | Navigable by steam barges. | Navigable only by junks. | Total. |
|---|---|---|---|---|
| | Miles. | Miles. | Miles. | Miles. |
| Yangtze-kiang . . | 1,400 | 300 | 200 | 1,900 |
| Its tributaries in :— | | | | |
| Setchwan . . . | — | 217 | 1,402 | 1,619 |
| Hu-peh . . . | — | 500 | 940 | 1,440 |
| Hu-nan . . . | 275 | 37 | 390 | 702 |
| Kiang-shi . . . | 260 | 160 | 1,712 | 2,132 |
| An-hwei . . . | — | 540 | 482 | 1,022 |
| Kaing-shu . . | 13 | 1,001 | 463 | 1,377 |
| Rivers in Che-kian . | 33 | 167 | 382 | 582 |
| ,, Fuh-kien . | 25 | 52 | 502 | 579 |
| ,, Kwang-tung and Kwang-si . | 353 | 1415 | 1,461 | 3,229 |
| ,, Shan-tung . | 33 | 127 | 270 | 430 |
| ,, Chili . . | 37 | 195 | 1,059 | 1,291 |
| Hoang-ho . . . | — | — | 1,200 | 1,200 |
| Great Canal . . . | — | 1,200 | — | 1,200 |
| Navigable waterways . | 2,429 | 5,911 | 10,364 | 18,704 |

Yangtze-kiang may be found in the table published on p. 192.

The mouth of the River Yangtze-kiang has the character of an estuary common to the Yangtze-kiang and the River Wang-po, which is navigable by large sea ships for a length of twenty-five miles only. The last-named river also forms the port of Shanghai. It is a regrettable fact that the common estuary of the two rivers is greatly exposed to the effects of the tide. At high tide the sea penetrates very far into the river bed, and has therefore created a sandbank at the mouth of the Wang-po River which can be kept free by continuous costly dredging only.

The main economic importance of the Yangtze-kiang River system consists in the fact that the collection and distribution of goods in central China is effected chiefly by its means. Shanghai and Hankow play important parts as places of collection and distribution. (See p. 181.) Both ports, by serving sea and river shipping, have become sea and river ports of first-rate importance, in spite of the fact that, whilst Shanghai is situated immediately on the sea-coast, Hankow is situated far inland. A drawback of the Yangtze-kiang consists in the fact that a great part of its course lies within a high mountainous region, owing to which waterfalls and torrents prevent steam shipping from penetrating into the regions situated farther inland. (See also p. 197.)

The *Hoang-ho*, on the contrary, flows mostly through flat territories, but is of very minor importance for inland shipping. Being impossible to regulate—according to Chinese chronicles it has, during the last 2,500 years, changed its river bed nine times—it is not navigable by steamships, but only by junks, and that only for 50 per cent. of its total length of 2,400 miles, *i.e.*, for a length of 1,200 miles. The main reason why it is impossible to regulate the Hoang-ho River is its extremely rapid fall (between Tungkuan and Honan-fu the fall amounts to 800 feet over a length of 150 miles). The floods, occurring annually, which constitute a permanent danger to the agricultural production in the vicinity of the river, also diminish its economic importance. Its river mouth has the character of a delta choked with mud and sand. Owing to the reasons enumerated, goods traffic to or from its shores is mostly dealt with either by the Great Canal (see later) or by the railways.

The *Pei-ho*, although it is navigable up to Tientsin for sea ships up to 3,000 tons, to-day possesses only a very minor importance. Originally Tientsin, as the port of Peking, enjoyed increasing prosperity, but since the economic and political centre of gravity of China has shifted farther towards the south into the valley of the Yangtze-kiang (Nanking-Shanghai), its importance has greatly diminished. Also, during the winter months, the River Pei-ho freezes, and consequently it is only as far as Taku that sea ships are able to penetrate, whilst river shipping ceases entirely. Since the completion of the Peking-Tientsin and Shanghai Railway, junk shipping has in this region been severely affected by the competition of the railway. ("Japanese Government Railway Guide to China," p. 23.)

The *Pearl River* of Southern China makes Canton a seaport, the importance of which, however, is minimised by the fact that Hongkong, which is situated at the mouth of the Pearl River, represents the seaport proper. The river has no importance from the point of view of "hinterland" because its short course serves a relatively small area only.

Of less importance than the rivers enumerated above are the frontier rivers of China, notably the Amur and the Sungari. A certain part might be played by the latter in connection with the transport of tea by means of junks, in case the Trans-Siberian Railway were opened for transit goods traffic also. In winter these rivers freeze, so that all traffic on them becomes impossible. Although they flow through the territory, or along the frontier, of Manchuria, this fact does not increase their economic importance, seeing that the whole trade of Manchuria is now directed towards

Japan and through the ports on the Yellow Sea (Dairen and Hulutao).

The number of artificial waterways in China is very large. The most important among them is the Great Canal, already referred to above, which, having a length of 1,200 miles, is the longest artificial waterway of the world. Its bed having in the course of time, owing to insufficient dredging, become completely choked with mud, it is not navigable by steamships, but only by smaller steam barges and junks. Its depth varies from 11 to 22 feet. The economic importance of the Great Canal is immeasurable. Not only does it flow across the Great Chinese Plain, which is one of the most important and fertile regions in China, but it also connects with each other the most important waterways of China running from west to east, namely, the Yangtze-kiang, the Hoang-ho and the Pei-ho ; consequently it enables goods to be transported by water from any district of China to other districts, over distances of several thousand kilometres. Before railways were constructed, the Great Canal was the most important artery of communication in China (transport of rice and tea), and even to-day its importance has not declined in any very great measure, because, as explained in Chapter II of the present part, traffic on the railway lines of China running from north to south, *i.e.*, parallel to the direction of the Great Canal, for instance, on the Peking-Hankow and on the Tientsin-Nanking line, has often been stopped owing to the political strife going on during recent years. Consequently, it is not only coastal shipping which has had to deal with the goods traffic, but a part has also been transferred to the junks circulating on the Great Canal.

Owing to the importance of shipping on inland waterways the number of companies dealing with this traffic is very great. During recent years, on account of frequent disturbances of the railway service, the business results achieved by these companies have been very favourable.

The most important river navigation companies are the following:

1. *On the Yangtze-kiang.*[*]—(*a*) Shanghai-Hankow line: The Japanese Nishin Kishen Kaisha Company (see p. 161), the China Merchants S.S. Company (see p. 175), and, in addition, the shipping companies of the two large firms of importers already mentioned (Messrs. Butterfield and Swire, and Messrs. Jardine, Mathisson & Co.—called the China Navigation Company (see p. 209). It is chiefly the three latter companies which form the connection between the section of the Yangtze-kiang between Shanghai and Hankow and the coastal traffic. In addition to the companies named two smaller Chinese companies are also operating. The total tonnage of river ships amounted in 1930 to 180,000 tons divided over 180 steamers. Nearly 80 per cent. of the whole fleet are since 1929 operating under a rate cartel. In summer and for down-stream journeys the rates are lower. Compared to European river shipping rates, the rates are high.

(*b*) Hankow-Ichang line: Nishin Kishen Kaisha, Indo-China S.N. Co., China Merchants, China Navigation Company.

(*c*) Hankow-Siangtan and Hankow-Changteh line (not navigable when the river is flooded): The same companies as enumerated under (*b*).

2. *On the Pearl River.*[†]—Between Hongkong-Macao-Woochow and Canton there sail the ships of the Hongkong, Canton and Macao S.S. Company, which, at least as far as passenger service is concerned, has to meet the strong competition of the Canton-Kowloon Railway. (The distance between Hongkong and Canton is 78 nautical miles.) The company possesses five ships, which are relatively new. Another company is the Yuen-on S.S. Company, which possesses two ships.

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[*] We must here state the following figures from the passenger tariff of the Yangtze-kiang shipping companies: Shanghai to Hankow (602 miles) 16·5 Mex. dollars, Hankow–Ichang (330 miles) 12–14 dollars.

[†] See Japanese Government Railways: "Guide to China," 1924.

3. *On the River Pei-ho* smaller cargo boats of various nationalities run up to Tientsin. Here there is no river steamship company.

Chinese inland shipping is, of course, most intense and most important on the main waterway, the Yangtze-kiang, through which and its tributaries most of the foreign trade with the inner regions of China and a great part of the inland trade are dealt with. A great *rôle* is played here, as mentioned before, by the ports of Shanghai and Hankow; we only point out here that the function of Shanghai, in the first place, is to distribute the goods arrived from abroad (as appears also from the data of traffic of this port, published on p. 181), whilst Hankow is a port of first-rate importance for the collection of goods and a point of distribution for the inland trade.

*Shipping on the River Yangtze-kiang* greatly differs, particularly on the lower course of the river, from shipping on other rivers. On the lower course of the Yangtze-kiang there is sea-coastal shipping, and also in a very large measure long-distance maritime shipping. The reason is that up to Hankow, *i.e.*, up to a distance of 1,000 kilometres from the sea, the river is navigable for steamships of considerable size (3,000 to 4,000 tons), consequently such traffic as is directed abroad or into the northern parts (Manchuria), or into the southern parts of the country (Canton), is carried from Hankow by sea ships; in addition, coastal shipping extends its traffic deep into the interior of the country.*

This circumstance is very favourable for the marketing of the goods produced by the regions accessible by navigation on the Yangtze-kiang and its tributaries, because after Hankow the goods exported have not to pay further cost of storage, transhipment and stowage, whilst as far as Hankow they are transported by the junks, which will be described in greater detail below, and which are much cheaper than steamships ; for similar reasons this circumstance is also favourable to the goods imported and to be distributed. In 1929, the total trade of all Yangtze-kiang ports amounted to 2,190,600,000 H.K.W. taels and the fees paid by the ships on this trade amounted to 2,351,000 taels. As against this, the total maritime traffic of China amounted to 154·7 millions tons, of which shipping on the Yangtze-kiang accounted for 90·6 million tons, *i.e.*, to 59 per cent. This proportion has been calculated on the basis of the maritime customs receipts.

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* Although similar examples may be found elsewhere also (for instance, on the St. Lawrence River, or on the Rio de la Plata), these examples must be judged differently, because, owing to the shortness of the sections navigable by steamships, this shipping has rather the character of river-mouth shipping, like that at Hamburg or London at the mouth of the Elbe or of the Thames; besides, these rivers do not extend so far into the hinterland and do not constitute the sole route of communication of large territories.

The prosperity of shipping on the Yangtze-kiang is also increased by the fact that during the internal disturbances in China the valley of the Yangtze-kiang (with the exception of a few parts of the lower section) was less affected than Manchuria or the region between Peking and Shanghai, and, in consequence, economic development has not been hampered in these regions.

The economic importance of the Yangtze-kiang region is proved by the large number of important riverside port cities (Nanking, Hankow, Ichang, etc.) in which a large number of foreign merchants have settled.

In giving an account of shipping on inland waterways, it is necessary to speak of junk shipping in China, which is an important factor of internal communication and of economic life in that country.*

Of the number of Chinese junks, not even approximate figures are available, as up to now very little supervision has been exercised over them. According to private information collected at Shanghai, their number is estimated at over 100,000.

The number of persons regularly and occasionally employed in junk shipping, and in work in connection with the same (towing), may be estimated at several millions. The passenger traffic on the Yangtze-kiang has during the last years considerably increased. Whilst in 1920 the total number of passengers at Yangtze-kiang ports was only 1·9 millions, this number increased by 1929 to 5·3 millions.

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* Junks are timber-frame sailing boats having a tonnage of between 10 and 200 tons. Their crew varies from five to thirty men. They are chiefly found on the rivers and channels of China, less frequently in coastal traffic (between Hongkong and Canton, in the Petshili Bay, etc.), where they have now already been crowded out by steamers.

As, up to now, the Government has not had any data collected concerning the construction and operation of junks, we cannot form even an approximate idea of the trade carried on by them. It is, however, easy to understand that, seeing that in certain large regions junks represent the only means of communication, the volume and value of goods transported by them must be enormous.

Each junk being usually the property of a family or of a private contractor, the many tens of thousands of junks are in fierce competition with each other, as a result of which the prices for which a junk can be hired and those for which it is towed over whirlpools have sunk to very low levels.*

Of course, as regards reliability, junks are unable to compete with steamers, but they nevertheless control traffic in all those regions where the river is not navigable by steamers. Their importance is, owing to their relative unreliability, greater in the collection than in the distribution of goods. (The American and European firms in Hankow or Ichang are willing to take over the goods arriving on junks, but less willing to confide to junk shippers the goods arrived from Europe and America.) Recently, however, the large river shipping companies have been engaging more reliable junks and junk personnel for shipping on the upper courses of the rivers.

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* The Hungarian writer, Mr. Jób Kompolthy, mentions in his book, "Across China in a Junk," that for three hours' work each of the coolies hauling the junk receives about 1 cent. The charter money paid for a junk of 26 tons in excellent condition for up-river travel, including the pay and food of the crew, amounts to about 200 dollars. These figures relate to 1910, when the exchange value of the tael, based on the silver standard, was higher than now.

The growing utilisation of the products of China has made junk shipping a flourishing industry, particularly on the Yangtze-kiang. The prosperity of junk charter shipping is also increased by the fact that the Yangtze-kiang communicates through the Great Canal with the River Hoang-ho and, besides, with a river system consisting of a number of smaller rivers ; in consequence junk charter shipping on inland waterways has developed at the expense of tramp shipping on these waterways. (See below.)

The junks are to-day still in fierce competition with regard to passenger as well as to goods traffic on the rivers and canals with the line ships maintaining regular schedule courses.

It is, however, unlikely that the charter prices of the junks will remain at their present low level very long, because already in the summer of 1930 the junk sailors, according to private information obtained in Shanghai, under the influence of Western and perhaps also Bolshevik ideas, began to create an organisation for the more effective protection of their interests ; so that it is likely that in the near future, particularly if the internal political problems of China are settled and internal trade increases as a result, the charter prices of junks will show a tendency to rise.

In 1906 some port authorities tried to count the junks visiting the ports. The results were as follows :

| Port. | Tientsin. | Chefoo | Shanghai. | Wu-hu. | Ichang | Canton | Swatow. |
|---|---|---|---|---|---|---|---|
| Number of junks which entered the port . . . | 522 | 3,863 | 5,678 | 16,253 | 13,818 | 279 | 16,951 |
| Number of junks which left the port | 512 | 6,261 | 3,864 | 16,253 | 16,404 | 648 | 2,241 |

(See Japanese Government Railways: "Guide to China," p. xx.) The large number of junks which visited the port of Ichang can be explained by the important position held by this port in junk shipping on the

Yangtze-kiang. In 1929 the total in- and out-going junk traffic of Shanghai amounted to 49,000 junks.

As mentioned before, it is very difficult to obtain a clear idea of the trade carried by junks as there are no official data available. It is only to a small extent that statistics of the junk traffic, which is so important an industry of China, have been collected by some of the port authorities.

On the whole, the most accurate data are those published by the port authorities of Hankow.* Thus the number of junks domiciled in Hankow was in 1924 estimated at 25,000. The junks sailing between Hankow, Woochang and Chingshan carry mainly tea and various products of domestic industries down the river, whilst on their up-river journey they carry plaster, sesame, vegetable oils and hides. The junks sailing towards the province of Kiangsi carry rice, medical herbs, paper, fruit and pottery, and bring home cereals and industrial products. The Honan junks bring lambskins, tree barks and medical herbs, whilst the junks circulating between Hankow and Hanchung carry chiefly paper and silk cocoons. The junks coming from the Setchwan district on their downstream voyage carry dried mushrooms, pepper and medical herbs, whilst on their up-river voyage they carry silk, cotton fabrics and various industrial products. Finally, the main cargoes of the junks sailing on the rivers of the province of Hunan and between the latter and Hankow consist of steel, rice, oil, tea, coal, etc. (See Japanese Government Railways: "Guide to China," p. 118.)

The quantities of goods exported from and imported to China on junks during recent years were as follows: In 1924, 3,869,788 tons of goods were shipped on 49,945 junks; in 1925, 3,094,230 tons on 44,410 junks; in 1926, 1,941,941 tons on 38,549 junks; in

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* Hankow being the starting-point of shipping on the upper Yangtze-kiang is particularly suitable for effecting observations, as it is not only a port of first-rate importance for transhipment from junks to sea ships, but is also situated on an important railway line.

1927, 3,418,716 tons on 43,601 junks; and in 1928, 3,477,698 tons on 40,941 junks.* (See "Trade Return of North China, 1928," Research Office, Department of Welfare, Table No. 84.) The proportion of goods shipped per junk accordingly amounted in 1924 to 81·7 tons, in 1926 to 50·33 tons, and in 1928 to 56·6 tons.

The value of the goods shipped to and from the port of Shanghai on junks amounted in 1924 to 105,940,000 Haikwan taels, and in 1928 to 110,465,304 Haikwan taels. These figures, however, include sea-going junks taking part in coastal traffic. (See Trade Return quoted above.)

The effect of the construction of railways in China on Chinese junk shipping—we are here thinking particularly of the junks on the Yangtze-kiang—has, on the whole, been a stimulating one rather than a destructive one. What accounts for this is, in addition to the lower cost of shipment by junks, the fact that only one railway line, short in length, has been constructed parallel to the direction of the Yangtze-kiang River, viz., the line between Nanking and Shanghai, and even that line has importance from the point of view of passenger traffic only. The Loyang-Haichow Railway, on the other hand, is already outside the sphere of attraction of the Yangtze-kiang.

On the other hand, the most important railway lines of China (as, for instance, the Peiping-Pukow-Nanking-Shanghai line and the line to be completed in the near future from Peiping to Hankow-Chuchow-Canton) intersect the river at right angles. These railways have been the means of developing important *entrepôt* ports, and their effect on the junk traffic is not one of commercial competition, but rather one of re-distribution, goods traffic being diverted by them from some sections, whilst, on the other hand, new goods are brought to the river by them.

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* These figures refer to goods brought to China or shipped from China by long-distance sea ships, and transhipped at the seaports into or from junks by means of which distribution to, or respectively collection from, the inner parts of the country is effected.

The great development of junk shipping, and its high degree of prosperity (which is not expressed so much by high figures of profits, but rather by the fact that this industry provides a living for a very large number of persons), offers an opportunity to observe two facts interesting from a point of view of communication policy.

The first of these is that in China junk shipping has rendered possible the intense development of charter river shipping, which exists, in a smaller degree, elsewhere also. The junks not only satisfy the requirements usually demanded of charter ships (large loading area, hull of inexpensive construction but, nevertheless, of great resistance), but also those economic requirements which render charter business prosperous. (Possibility of lower charter rates than those possible in the case of line ships, low working cost, small crew in receipt of low wages, etc.)

The fact that the internal traffic of China has, owing to the inadequate road system, and the incomplete and often unworkable railway system, to be carried on largely by means of inland waterways, has given particular importance to junks, which, as mentioned before, are able to operate over a wider area than that covered by river line ships, and, moreover, in many cases in the very regions where the absence of roads and railways is felt most keenly. On the other hand, junks, by their nature (each junk being the property of a family which lives by following the carrier's trade), are only suitable for carrying on charter shipping.

The second fact observed is a consequence of the first-named one, and at the same time demonstrates a case which, from the point of view of communication policy, has no parallel, namely, that it is possible (but of course only under such peculiar natural and economic conditions as exist in China) for tramp shipping to develop on inland waterways also.

The special character of the inland waterways of

China, due to their being, as repeatedly stated, connected by the Great Canal, lies in the fact that on them any district of the country can be reached from any other district by means of junks (and of junks only, because, as has been explained, steamers are unable to circulate on the Great Canal).

Accordingly a junk which may have been chartered for the purpose of shipping rice from the region of Hankow, through the Great Canal, to Peking, may, after having discharged its load there, easily find an opportunity of continuing its way loaded with a different kind of goods to Shanghai, where it may again receive a new cargo intended for the upper course of the Yangtze-kiang River. This is a typical example of tramp shipping, and, in addition, the other characteristics of this kind of shipping (transport at rates agreed upon in each case, transport of passengers along with the goods, etc.) are also usually present.

On the larger lakes of China, junk traffic is only of local importance, the junks on these lakes being mainly fishing boats.

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# CHAPTER VII

## FOREIGN SHIPPING IN THE FAR EAST

IN the preceding chapters we have become acquainted with the conditions of maritime shipping of the two countries of the Far East, Japan and China, and have come to the conclusion that of these it is Japanese maritime shipping only which possesses international importance, having become an important factor in international relations also, partly owing to general economic and political circumstances and partly to the well-thought-out communication policy of the Japanese Government.

In the preceding chapters reference has been made repeatedly to the ships of foreign (other than Japanese or Chinese) shipping companies sailing in the Far East and between the Far East and the other parts of the world, which, of course, also receive their share of international goods and passenger traffic. Reference has also been made to the increasingly keen competition of Japanese maritime shipping with foreign shipping companies, which, owing to this growing competition, are in the Far East, and even in other parts of the world, either losing ground or at least finding themselves at a standstill. In what follows, we will discuss shipping companies other than Japanese in so far as their activity interests us in connection with our present enquiry.

About 1870, when Japan was opened to regular trade with other countries, and when, owing to the opening of the Suez Canal, trade between Europe and Asia attained entirely unexpected proportions, a very great volume of traffic between Europe and the Far East was handled by merchant ships other than Japanese or Chinese, chiefly by British ships. At this time Japan possessed only thirty-five ships (with a total tonnage of 16,000 tons).

Later on, owing to the reasons explained in Chapter IV of Part II, it was, first, British shipping which was induced by the development of the Japanese commercial fleet to display the keenest competition with the latter in the Far East as well as in the trade between the Far East and Europe, whilst, after the War, North American shipping was led into similar keen competition in the Pacific.

To-day, even in the traffic between Australia and the Far East, which formerly was handled almost exclusively by British ships, Japanese commercial shipping is gaining ground.

According to the most recent data, the chances of Japanese commercial shipping in the competition above mentioned are continually improving, and in consequence it is clear that, whilst in the trade between North America and Europe keen competition has ceased owing to cartel agreements, it is the Pacific and the Far East-Europe routes which have become the main commercial battle ground of international shipping.

With the increasing importance of foreign commercial shipping, their interest in Far Eastern traffic and trade between the Far East and the rest of the world is steadily declining, as explained already in Chapter IV of Part II.

If, for instance, one only considers the number of ships which have passed through the Suez Canal, a considerable proportion of which run between the Far East and Europe, one is struck by the steadily increasing number of Japanese ships. (See the table on p. 316.) Or, if the traffic on the Pacific Ocean is considered, it will be seen that the traffic between the west coast of North America and the Far East is handled by ships having a total tonnage of 750,000 tons, of which the ships sailing under the Japanese flag represent a total tonnage of 350,000 tons, *i.e.*, 45 per cent. Between the east coast of America and the Far East trade is handled (through the Panama

Canal) by ships having a total tonnage of 800,000 tons, of which Japanese ships represent 300,000 tons.*

It is chiefly British commercial shipping which is seriously affected by the increased activity of the Japanese and of the North American commercial fleet in the Far East.

The following are the most important shipping companies taking part in the traffic between the Far East and the other parts of the world :

Between the Far East and America, regular traffic is maintained, in addition to Japanese shipping companies (see pp. 157–160), by two large companies : the *North American Dollar Line* and the *American Mail Line*, which is to some extent under the control of the former. The steamers of the first-named company sail from San Francisco at fortnightly intervals, *viâ* Honolulu, to Yokohama, or from San Francisco, *viâ* Yokohama, Singapore and Suez, to New York (round the world). The American Mail Line maintains fortnightly sailings from Seattle, *viâ* Victoria, B.C., to Yokohama, and then *viâ* Kobe, Shanghai and Hongkong to Manila. The Dollar Line controls ships of a total tonnage of 440,000 tons, of which 130,000 tons represent those of the American Mail Line. The majority of the shares of the company are held by the Dollar family. The ships are of the so-called " President " type ; they were built during the War as a fleet of sister ships for the purpose of transporting American troops, and it was only after the War that they were transformed into ships for commercial passenger traffic. Most of the units have tonnages of either 14,123 or 10,500 tons. The company owes its rapid development to the increase of traffic in the Pacific Ocean which took place after the War. During the year 1931 two new passenger ships of 15,000 tons each † were put in commission with the intention of wresting the leading position in the Pacific Ocean from the new Japanese and Canadian ship units put in commission in 1930.

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* See M. Arikawa, " Shipping Industry in Japan." The *Japan Times* Overseas Weekly Edition, November 2nd, 1931.

† *President Coolidge* and *President Harding*.

In the construction of the steamers of the company it is not a particularly high degree of comfort but safety which has been the first consideration.

*The Canadian Pacific Company* (a British company, see p. 335) possesses a Pacific fleet consisting of three or four powerful ships of the " Empress " type (the *Empress of Japan*, 25,000 tons, up to the present holds the Blue Ribbon of the Pacific), and maintains fortnightly sailings between Hongkong, Yokohama, Victoria, Vancouver. The character of the steamers is mainly that of steamers for passenger transport.

The more important companies maintaining sailings between the Far East and Europe are the following :

1. *British Companies.—The Peninsular and Oriental Steam Navigation Company*, called popularly P. & O., was incorporated by Royal Charter on December 31st, 1840. It is really a combination of a number of shipping companies of varying importance,* and thus the total tonnage of its ships attains the figure of two million tons. Its paid-up capital is £6,632,518. Its stock of debentures amounts to £7,487,560. The company is obliged to maintain regular sailings from London and other British ports to India, to the Far East, to Australia and to the British possessions in Farther India. We are in the present work chiefly interested in the line Yokohama-Kobe-Shanghai-Hongkong-Singapore-Colombo-Aden-Suez-London, on which fortnightly sailings are maintained.

In addition to these regular fortnightly sailings, the company maintains short connecting lines, with sailings three times a week, from Hongkong to Macao and Canton, twice a week from Hongkong to Swatow and Amoy (here the company takes part in Chinese coastal shipping), and once a week from Hongkong to Foochow and Keelung.

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* Namely, the British India Steam Navigation Company ; Union Steamship Company of New Zealand Ltd. ; Federal Steam Navigation Company Ltd. ; The New Zealand Shipping Company Ltd. ; The Khedivial and Graving Dock Company Ltd. ; Australian United Steam Navigation Company ; The Eastern and Australian Steamship Company Ltd.

In 1931 this company put new ship units in commission for the Far East in order to keep pace with the up-to-date character of the ships of Japanese and Dutch shipping companies.

The more important ships of the company on this route are the following :

*Cathay*, 15,121 gross register tons ; *Chitral* and *Comorin*, oil-fuelled, over 15,000 tons each ; *Maloja*, *Mooltan*, *Mongolia*, *Moldavia*, *Naldera*, *Malva*, ships above 10,000 tons (*Mooltan* and *Maloja* are above 20,000 tons each), mostly oil-fuelled ; its newer ships are the oil-fuelled twin-screw steamers (*Rajputana*, *Ranchi*, *Ranpoora*, *Rawalpindi*, of 16,000 tons each, and the *Viceroy of India*, 20,000 tons).

"*Alfred Holt & Co.*" (Blue Funnel Line).—A Liverpool shipping company connected by community of interests with the China Mutual Steam Navigation Company and possessing line ships having a total tonnage of 670,000 tons. The company maintains occasional sailings from Liverpool to India, the Malay States and the Far East with its not quite up-to-date ships, which are mainly of a semi-cargo type.

Its more important ships are : *Patroclus*, *Philoctetes*, *Antenor* (these are 11,000-ton ships belonging to the China Mutual), *Achilles*, *Æneas*, *Anchises* and *Nestor*, each of 10,000 tons.

*The "Glen Line and Shire Line"* is maintaining a passenger and goods service between Great Britain and Yokohama. Sailings are occasional. The company possesses newly built motor ships (of the semi-cargo type). The total tonnage of its ships amounts to 140,000 tons.

*The China Navigation Company Ltd.* (see p. 196) is chiefly engaged in handling the highly important Chinese coastal and Yangtze-kiang shipping. It is owned by one of the most important firms of importers in the Far East, Messrs. Butterfield and Swire. (See p. 56.) In accordance with the purpose served by these units, none of them has a tonnage exceeding 3,500 gross register tons, and, accordingly, the steamers are able to sail up the Yangtze-kiang as far as Hankow and carry goods loaded there direct to the large maritime distribution points (Yokohama, Kobe, Hongkong). The total tonnage of the ships owned by this line is 120,000 tons.

The most important competitor of the last-named line is the Indo-China Steam Navigation Company Ltd. (total tonnage of ships 105,000 tons), owned by the other great firm of merchants in the Far East, Messrs. Jardine, Mathisson & Co. Like the China Navigation Company, this company also is engaged in the Chinese coasting and short-distance trade. Its units have, likewise, a tonnage of less than 3,000 tons. Both companies are also engaged in handling the Chinese coolie traffic, which is very important at times, especially when opportunities for employment shift, as they do periodically, from one district to another.

2. *French Shipping Lines. Messageries Maritimes.*—This is a limited company with a capital stock of 80 million francs. Owing to a cartel agreement, in which spheres of activity are apportioned to the various members of the cartel, it holds a dominant position in the eastward shipping trade of France. It is obliged to maintain fortnightly sailings from Marseilles to Yokohama, calling at various ports on the way, such as Port Said, Djibuti, Colombo, Singapore, Hongkong, Shanghai, and the coast of French Indo-China as well. In 1931 and 1932 it put in commission motor ships of a new type (*Georges Philippar,** *Felix Roussel*) to replace its superannuated units.

The company possesses a line of ships, the tonnage of which totals 500,000 ; of these, however, only a few are up-to-date motor ships of 15,000 tons. The other ships above 10,000 tons (*Athos II*, *D'Artagnan*, *Porthos*, *André Lebon*, *Mariette Pacha*, *Général Metzinger*, *Chennonceaux*) are mostly old vessels and are therefore no longer able to compete very well with the Japanese and Dutch ships either as regards comfort or as regards safety and speed.

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* The *Georges Philippar* was a victim to fire outside the port of Aden on May 15th, 1932.

3. *Italian Lines.*—Up to 1931 the Lloyd Triestino, the successor of the ancient Austrian Lloyd, kept up a fortnightly mail line service between Shanghai and Trieste with its old ships of a semi-cargo type. A recent order of the Italian Government has united the ships of the Lloyd Triestino, the Lloyd Sabaudo, the Navigazione Generale Italiana and of the Sitmar Company under the names of " Italia " and " Lloyd Triestino " respectively, and these new and powerful companies now maintain the goods and passenger traffic between Italy and the Far East by ships sailing alternately from Genoa and Trieste.

4. *Norwegian Line. Wilhelm Wilhelmsen.*—This is a private company which maintains an occasional goods and passenger service between Oslo and Japan. Its ship units have tonnages of about 7,000 to 8,000 tons. Of the total fleet of this company, having a tonnage of 350,000 tons, only a tonnage of not quite 80,000 tons is employed in the service between Europe and the Far East.

5. *Swedish Line. Svenska Ostasiatiske Companiet.*—Capital stock 16 million Swedish crowns. It is engaged in goods traffic between the Far East and Sweden. Its ships have a total tonnage of 70,000 tons. Among its ships there is a number of motor ships of 5,000 tons.

6. *Danish Line. Det Ostasiatiske Kompagni.*—It handles goods and passenger traffic between Copenhagen and the Far East by means of motor ships of a new type. Its capital stock is 50 million Danish crowns. The total tonnage of its ships amounts to 150,000 tons.

7. *Dutch Line.*—The ships of the most important Dutch line run between Java and Rotterdam. Its modern large passenger ships sail at weekly intervals. Between Holland and the Far East proper there operates a company called Vereenigde Neederlandsche Scheepvaart Maatschappij. The capital stock of this company is 50 million Dutch florins ; it consists of ships of an antiquated type, having a total tonnage of 147,000 tons.

8. *German Far-Eastern Shipping* has since the War lost a great part of its former importance. To-day the "*Ostasien*" line of the Norddeutscher Lloyd sails each week. The cargo boats also carry passengers. The ships are below 8,000 tons each and are rather antiquated.

The *Hamburg America Line* also maintains weekly sailings to the Far East.

9. *Russian Shipping*, whilst not figuring at all in long-distance traffic, has a very great importance in the traffic between Vladivostok and the Yellow Sea ports. The Russian commercial shipping companies have been amalgamated into the so-called Sovtorgflot (having a capital stock of 25 million gold roubles). It is the Far Eastern section of the Sovtorgflot which, with its fleet of 35,000 tons, handles the traffic in question, with the aid of a fleet having a total tonnage of 35,000 tons. The units are, without exception, of a very antiquated type, and none of them exceeds a tonnage of 5,000 tons.

10. *The North American Dollar Line*, which maintains a service of ships around the whole world, also plays a part in traffic between the Far East, Europe and America. Their ships, of the "President" type, cater in the first place for passenger service.

Regular sailings between the Far East and Australia are maintained, in addition to the Japanese N.Y.K. Shipping Company, only by the Eastern and Australian S.S. Co. Ltd., of which mention has already been made on p. 208.

In addition to the services maintained by the shipping lines named, a great deal of occasional cargo tramp shipping to and from the Far East is carried on by all maritime nations.

Finally, we will attempt to make a forecast of the future and to foreshadow the direction which the development of shipping between the Far East and other parts of the world is likely to take.

In Chapters I, II and III of Part III, the circumstances controlling shipping traffic between the Far East and the rest of the world, which also decisively influence the position of foreign shipping in the Far East, are discussed in greater detail. Here we will confine ourselves to mentioning a few points on which the probable development of commercial shipping in the Far East depends.

1. Circumstances influencing traffic directed towards Europe.

(*a*) The opening of the Trans-Siberian Railway for goods traffic. Up to the present the railway line connecting Europe with the Far East, the Trans-Siberian Railway, is closed to regular goods traffic. Up to now Russia has failed to provide a double track on this railway, and accordingly it has not been able to fulfil its function properly. Strategic and political reasons (fighting in Manchuria) have up to now prevented the opening of the Trans-Siberian Railway for international transit traffic, although profits would probably repay the capital required for reconstruction in a very short time. (See in greater detail Chapter IV of Part III.)

If the Trans-Siberian Railway were opened for goods traffic, this would result in a catastrophic fall in the rates for goods transport between the Far East and Europe, and most probably it would be those newly built ships, whose cost of construction has not yet been written off, which would probably be unable to bear such a fall in the rates. (The ships would become superannuated before the interest and amortisation on their cost of construction would have been refunded to the company which had them constructed.) Passenger traffic would probably remain unchanged.

(*b*) The greatest and most immediate danger menacing shipping between the Far East and Europe is the completion of the Canton- (Hongkong) Peking Railway. It may be seen from the map sketch facing p. 113, that only a few hundred miles on the Canton-Peking section await completion, and this may be expected to take place by 1937. This done, it will mean that even from Hongkong goods will (supposing, of course, that in the meantime the Trans-Siberian Railway is opened to goods traffic) reach Berlin by rail in twenty-five days. Experience teaches, however, that a railway journey of twenty-five days always means higher freights than a maritime voyage of thirty days' duration, so that the railway would not everywhere deprive the shipping lines of their traffic in all classes of goods. It is particularly Chinese coastal shipping and shipping on the Yangtze-kiang which would suffer from the opening of this railway.

On the other hand, as regards passenger traffic and the postal traffic which usually follows the same direction, the new railway will definitely deflect the whole passenger traffic of Southern China towards the north, not only owing to the shorter time required for the journey, but also to reasons of personal comfort, by enabling travellers to avoid the hot voyage through tropical regions. (See also p. 125.)

(*c*) The industrialisation of Japan and China will have a decisive influence on shipping traffic between the Far East and Europe. As will be shown in the introductory part of Chapter III of Part III, traffic through the Suez Canal used to consist, in the direction from east to west, of the transport of raw materials into industrial Europe and, in the direction from west to east, of the transport of manufactured goods into the tropical consuming regions. During and after the War it was the U.S.A. who appeared in the Far East as purchasers of raw materials and sellers of industrial products, thus replacing the European countries which were engaged in war. (See also Chapter II of Part I.) In recent times it is the steadily growing industry of Japan which is becoming more and more capable of working up the raw materials of China. The effect of these developments is a double one: The quantity of raw material shipped to Europe will diminish and, in consequence, imports into the countries of the Far East of manufactured industrial products will also increase. As a consequence of these events shipping traffic between the Far East and Europe will probably gradually but steadily diminish; while shipping traffic between China and Japan will increase. Similarly, shipping traffic with Europe is endangered by the possible industrialisation of British Colonies and Dominions, particularly of India, against whom the British Government is just now, when this book is being written, engaged in such a fierce struggle.

2. Circumstances influencing shipping traffic with America.

(*a*) How long will the over-industrialised U.S.A. be able to find a market for her products in the Far East? Will the continued industrialisation of Japan referred to above finally result in crowding out American industry from Asia?

(*b*) When and to what extent will the Pan-American idea, which is gradually gaining ground in the U.S.A. and in some parts of South America, and which aims chiefly at the creation of a close economic union between South America as a producer of raw materials and North America which is predominantly industrial, materialise? The greatest obstacle to carrying this idea into effect consists in the fact that the U.S.A., in addition to being industrial, is also highly important agriculturally (cereals, cotton, sugar, stock-breeding), whilst in some of the South American countries (Chile, Argentine, Brazil) the growth of the idea of a "Spanish South America," which aims at rendering these States independent of Anglo-Saxon North America, tends to force these countries towards industrialisation. It is evident that as soon as the Pan-American idea routs the idea of Spanish America in South America the industry of the U.S.A. will no longer depend on the Far East as an outlet for her industrial products, and then there is no doubt that Japanese industry will play the leading *rôle* in the Far East.

In this case, however, Trans-Pacific traffic will diminish to a considerable extent.

The following data will serve to illustrate the decline of foreign maritime shipping in the Far East during the last half-century. In the year 1890 the total traffic of Japanese ports amounted to 3,356,800 tons, of which 2,406,520 tons, *i.e.*, 71·7 per cent., represented the share of foreign ships in this traffic. In 1907 the traffic was

40,500,000 tons, of which the share of foreign shipping amounted to 22,630,000 tons (55·94 per cent.) only. (See the 1893 and 1901 editions of the "Statesman's Year-book." *)

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"Canadian Pacific Sailing Schedule," 1930.
"N.Y.K. Sailing Schedule," 1930.

* It will perhaps not be uninteresting to our readers if we publish more detailed figures regarding the present financial position of the more important foreign shipping companies maintaining a regular service between the Far East and the other parts of the world. (The figures are taken from the 1932–33 volume of the "Almanacco Marine Mercantili.")

The Canadian Pacific, which operates as one of the branches of the Canadian Pacific Railway Co., shows in its business report for 1930 a capital stock of 464,348,000 U.S.A. dollars. In 1931 its capital stock was raised to 514,348,000 U.S.A. dollars. Its fleet of ships (468,000 tons) is assessed at a value of 114,135,000 U.S.A. dollars. In 1930 the company paid a dividend of 10 per cent. Its railways and hotels also represent important assets (837,754,000 U.S.A. dollars). The report of the company for the year 1931 reflects the effects of the economic world crisis. It was only by withdrawing certain ships from the service altogether and putting a number of others out of commission temporarily that it was possible to achieve satisfactory business results.

The Peninsular and Oriental S.N. Co. had, according to its report for 1930, a capital stock of £7,632,518. Debts amounted to £8,487,000. Fixed and movable assets, however, fully covered these liabilities. (See in greater detail "Almanacco Marine Mercantili," 1932–33, p. 971.) In 1930–31 the company paid a dividend of 6 per cent., whilst in 1928–29 the dividend was 12 per cent. and in 1929–30 10 per cent.

Messageries Maritimes (see in greater detail "Almanacco Marine Mercantili," 1932–33, p. 1242) show in their report for 1930 net assets amounting to 392,178,839 francs. Their business revenue amounted to 3,371,935 francs. The report, dated June 12th, 1931, of the Board of Directors, points out the reasons for the diminution by 17 per cent. as compared to the preceding year of the traffic on the routes served by the company, which are also referred to in the reports of the Suez Canal Company (see p. 319). In consequence of this situation, it was only by the strictest rationalisation and by drastic measures of economy that the company was able to prevent its business year ending with a deficit, and accordingly, it has also been unable to pay any dividend.

# CHAPTER VIII

## ROADS IN JAPAN AND IN THE JAPANESE POSSESSIONS

ROADS, which in the last century, during the rapid development of railways, became of a minor importance, have with the spread of mechanically propelled land vehicles running on a non-fixed track, such as motor cars, motor cycles, etc., again become important means of communication. A number of factors of modern economic development, among them the demand for the transport of goods, if possible, direct from the producer to the consumer, have raised new demands as regards the means of transport, particularly the demand that this shall be independent of a fixed track. These demands are best satisfied by motor vehicles.

With the growing importance of motor cars the importance of roads is likewise increasing, and to-day the existence of a well-planned road system in good working condition is of almost as great importance to a country as a proper railway system.

In Japan, the construction of a modern system of roads was begun in 1875, when, at a meeting of district superintendents held in Tokyo, the nature of the roads to be constructed was decided on, and the way in which the money for their construction and future maintenance was to be found was settled.

At this meeting the following system of division of roads into different categories was adopted :

I. National Roads.

First Class Roads. These are the roads leading from Tokyo into the various free ports established by agreement with the Foreign Powers.

Second Class Roads. Leading from Tokyo to the various temple and military towns.

Third Class Roads. Leading from Tokyo to the more important district centres and connecting the more important military towns.

II. Provincial Roads. (Corresponding to the French " Routes départementales.")

First Class Roads connecting the various provincial centres and military centres.

Second Class Roads connecting provincial centres with district centres.

Third Class Roads connecting villages of larger size with the provincial centre and with the more important ports.

III. Village Roads. (Corresponding to the French " Chemins vicinaux.")

First Class Roads connecting villages with each other.

Second Class Roads constructed for agricultural or mining purposes.

Third Class Roads leading to Buddhist or Shin-to temples.

The following rules are laid down for the construction and maintenance of the various categories of roads :

The construction of National Roads is provided for in the Budget, whilst their maintenance is partly provided for by the province in which the road section requiring to be repaired is situated.

The cost of construction as well as of maintenance of provincial roads is shared equally between the State and the county.

The construction and maintenance of village roads is defrayed by the village, but control is exercised by the provincial authorities.

The width of national roads is fixed at 42, 36 and 30 feet ; that of the provincial roads at 30 and 24 feet.

The number and length of roads of different categories depends, in a large measure, on the character of the province. In provinces mainly industrial and commercial in character we find large national roads and special motor routes connecting the large centres of commerce and industry, whilst their network of by-ways is comparatively small. In agricultural provinces, on the other hand, there are more country lanes and by-ways leading to the large roads. In provinces having a population residing in villages and scattered farms, the roads of the second and third categories are more numerous than in provinces having a population settled chiefly in towns. Japan has, as far as its road system is concerned, retained its original agricultural character. As a result of the relatively high density of the population and of the large number of islands, on which, owing to the absence of any large long-distance and transit traffic which would require the construction of high roads, it is only the construction of roads of minor importance which is economically profitable; it is the roads of the third category that represent the largest proportion of the total length of roads. (See the table published on p. 220.) In 1927, out of a total length of roads of roughly 950,000 kilometres only 8,000 kilometres, *i.e.*, 0·82 per cent., represented national high roads of the first category, whilst the length of local and village roads of the third category amounted to roughly 850,000 kilometres, *i.e.*, to 80·9 per cent.*

It is only in recent times that up-to-date methods of road-making and repairing for high roads for long-distance traffic have been introduced, but it is only at a very slow rate that this work is progressing. This is one of the main reasons for the slow development of motoring in Japan. (See Chapter X of Part II.) It is beyond doubt that as soon as the proposed special motor car tracks are constructed, and it is proposed to construct first the Tokaido high road from Tokyo *viâ* Yokohama to Kyoto, Osaka and Kobe, the development of motor car traffic will receive a great impetus, as has, in fact, already been the case on those sections of the main high road which have been provided with up-to-date macadam and cement surfaces, namely, on the section between Tokyo and Yokohama and on that between Osaka and Kobe.

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* At the same date the corresponding proportions in Germany, a highly industrialised country, the population of which is practically equal to that of Japan, were as follows: the length of roads of the first category was 41,268 kilometres, *i.e.*, 20 per cent. of the total length of the road system, whilst that of roads of the third category was only 41,000 kilometres, *i.e.*, 20 per cent. of the total length of roads. I am indebted for this information to Dr. John Várszeghy.

Acting in a very mistaken policy which serves local interests only, the Japanese Government, as appears from the following table showing the distribution of Japanese roads, is at present engaged, in the first place, in the construction of provincial roads instead of strenuously pursuing the construction of the main roads of communication :

| Year | Length of roads in kilometres | | | |
|---|---|---|---|---|
| | Total length. | National roads. | Provincial or district roads. | Local and village roads. |
| At the end of 1921 . | 884,215 | 8,209 | 51,788 | 824,218 |
| ,, ,, 1924 . | 1,033,101 | 8,181 | 91,730 | 933,190 |
| ,, ,, 1927 . | 946,375 | 8,235 | 92,808 | 845,332 |
| ,, ,, 1928 . | 942,662 | 8,232 | 98,464 | 812,008 |
| ,, ,, 1929 . | 940,000 | — | — | — |

This policy of the Government is certainly a mistaken one, because in those places where good high roads connecting different economic districts are lacking, the population derives little profit from the system of second-rate roads already constructed, since it is only by good high roads that it is possible to effect the transport, into large consuming and distributing centres, of the goods brought to the high road by means of the second- and third-rate roads, and owing to the absence of the high roads, the second-rate roads constructed at large expense lose their value.

It is the railways alone which profit from this mistaken policy of road construction, because by these means they are escaping the active competition of motor vehicles which they would have to meet if the road system had been developed in a proper manner.

It should be mentioned that in Japan, owing to the special conditions ruling in that country, there exists a peculiar difficulty of a financial kind with regard to the development of the road system. In Europe the greatest part of the cost of road construction is covered from the road taxes and rates paid by communities and private landowners.

Owing to the division of Japanese landed property into very small units, which is a consequence of the extraordinarily rapid growth of the population, it is very difficult, and will perhaps be even more difficult in the future, to cover the cost of road construction by means of such taxes.

In a very interesting essay (" Rising Tendency of Land Value in Japan "), M. Kambe, Professor of the University of Kyoto, states that owing to the increase of the value of land, consequent on the rapid natural growth of the population, the quantity of products which it is possible to produce on a given area of land diminished. Accordingly, there arises the situation that beyond a certain limit it will no longer be possible to work agricultural landed property at a profit, and that accordingly it will also not be possible to pay taxes (road taxes) from the income derived from landed property.*

For these reasons, Japan will in a greater degree than other countries be compelled to draw the capital required for road construction from other sources in the Budget.

The method of road construction is the same in nearly all parts of Japan.

In what follows we will describe the three main high roads of Japan and their economic function. It should be remarked that it is only after motoring has developed that the real importance of these roads will become manifest.

Thus Japan will, in the future, be compelled in a higher degree than any other country to provide in its Budget for the capital required for the construction of roads by other means than a direct road tax.

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* The assertions of M. Kambe are also confirmed by the statistics published by him, which illustrates strikingly the diminution of persons paying taxes on incomes below 5,000 yen per annum in Japan. Whilst in 1919 the number of such taxpayers was 1,336,000, in 1928 their number had declined to 807,000 only. Now it is a well-known fact that the overwhelming part of taxes collected is obtained from taxpayers with small incomes.

The technical method of road construction is practically the same in all parts of Japan.

The three main roads of Japan are the Tokaido, the Nakasendo and the Oshukaido roads. The importance of these roads will only make itself fully felt when motoring has reached a higher stage of development in Japan.

The most important high road is the *Tokaido* road, which runs practically parallel to the Tokaido Railway line. This is Japan's oldest road and connects those three cities of Japan which, from a political and economic point of view, are the most important; that is, it connects Osaka and Kyoto with the ancient city of Yeddo, which has now become Tokyo. Running along the sea-coast, the road passes through the more important ports on the way (Yokaichi, Yokohama). It is 345 miles long, and its construction was probably begun as early as in the twelfth century. Its economic importance may be compared to that of the Via Appia of ancient Rome, which connected Rome (here represented by Yeddo) with seaside industrial and commercial centres such as Naples, Pompeii and Herculanum (represented here by Kyoto and Osaka).

Subsequently the Tokaido road was extended by 100 miles as far as Nikko.

The Tokaido road to-day still forms the backbone of the road system of the country, as it connects the six most important cities of Japan (Tokyo, Yokohama, Nagoya, Osaka, Kyoto and Kobe), which in themselves have an aggregate population of seven million souls (10 per cent. of the total population of the Japanese Empire). One of the most important tasks the Japanese Government could perform to-day would be to reconstruct the Tokaido road so as to make it a first-class motor car way.

The *Nakasendo* road serves to prevent any overburdening by traffic of the Tokaido line. It connects Tokyo with Kyoto, not along the sea-coast, but through the mountains. Its length is 340 miles.

The *Oshukaido* road connects the northern part of the island of Hondo with Tokyo. (Its northern end-point is Aomori.) Its length is 445 miles.

Owing to the natural configuration of the island country, it is only on the largest island that it has been possible for an organised road system to develop. The channels separating the other islands from the main island are too large to permit of the construction of bridges or dykes over them.

It is evident that in Japan, as in other island countries, the only function of the roads is to serve as a channel for goods traffic from the inner parts of the country to the ports.

The method of construction and the economic function of roads in Korea greatly differs from those of the roads in the mother country.

In the construction of Korean roads, strategy was of primary importance, seeing that, in case of any war between Japan and Russia or between Japan and China, Korea is where armies would rally. Owing to the increasing use of automobiles by modern armies, the importance of roads in time of war will equal that of railways. This is particularly true for Korea, where only one railway line is available, which in case of war will hardly be able to deal with the increased volume of traffic, whilst transport by ships at such a time involves greater risk.

The Korean roads fall into three categories. First-class high roads have a width of 24 feet, second-class high roads a width of 18 feet and third-class high roads a width of 12 feet.

After occupying Korea, the Japanese Government worked out a seven years' plan for the development of a Korean road system. The work was completed in 1917; its cost amounted to roughly 10 million yen. A total number of thirty-four roads, representing a total length of 1,700 miles, was constructed. (The average cost of construction was 5,883 yen per mile.*)

* This is, of course, an average of the various categories of roads. The cost of the various types of roads is, of course, different.

After this first project was put into execution, the Japanese Government decided to construct a further number of twenty-six roads, representing a total length of 1,200 miles, at a cost of 7·5 million yen, during the period between 1917 and 1922. In consequence of the 1923 earthquake in Japan there arose such a huge demand for building materials of all kinds that as a result prices rose and all the labour force available was attracted to the site of reconstruction, the cities of Tokyo and Yokohama, devastated by the earthquake. This caused unforeseen difficulties in the Korean road construction programme. The amount of 7·5 million yen of the estimate was increased to 12 million yen, and the date of completion of the work of the second stage of development was postponed to 1928. Moreover, the original plan was so modified that a large part of the money allotted for this project was used for the construction of bridges and frontier roads. In 1926 a further amount of 5·6 million yen was voted for the construction of roads and bridges in Korea. This work is intended to be completed by 1935.

At present the total length of first-class and second-class roads amounts to about 6,000 miles. At the beginning of 1930, 75 per cent. of the proposed first-class and second-class roads and about 68 per cent. of the proposed third-class roads were in serviceable condition.

This extensive road construction has, of course, influenced the development of motoring in Korea; it is particularly motor bus traffic that is now developing rapidly.*

The most important high road of Korea follows the natural main line of the country's traffic, leading from the port of Fushan through Keijo to the Chinese frontier. Even before the Japanese occupation, this road was the main artery of communication and was maintained by the Korean Government of that time mainly with the aid of forced labour imposed on the population.

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* The development of urban road systems may be considered as being due to the development of motoring. In Keijo (Sóul) three million yen was spent between 1911 and 1918 on the construction of new streets. A further amount of 2·6 million yen was allotted for the modernisation of the street systems of other provincial towns. In 1927 60 per cent. of the proposed street paving work has already been completed.

Since the country has come under Japanese rule, the amount used for road construction is included in the State Budget.

*Bridges* represent important accessories of a road system. As in other island countries, bridges play a particularly important *rôle* in Japan. The number of bridges across agricultural irrigation canals is so large that it is really impossible to keep any record of them. The method of construction of the Japanese cities (comprising a network of channels crossing them) also renders the construction of bridges necessary. In Osaka alone, the various parts of the town are connected by more than 1,650 bridges. (See "A Glimpse of Osaka, 1930," issued by the Municipal Office of Osaka, p. 38.) We therefore only mention the bridges of more than 6 feet in length, of which there exist statistical records. The number of bridges is contained in the table published below:

| Year. | Total number of bridges. | Steel bridges. | Stone bridges. | Timber bridges. | Earth bridges. | Other bridges. |
|---|---|---|---|---|---|---|
| 1921 | 401,971 | 580 | 84,668 | 151,988 | 160,373 | 4,357 |
| 1924 | 420,694 | 1,132 | 92,643 | 160,121 | 156,113 | 10,685 |
| 1927 | 410,872 | 1,864 | 93,162 | 146,441 | 147,474 | 21,658 |
| 1928 | 377,212 | 6,023 | 81,848 | — | — | 660 |

It appears from this table that from 1921 to 1928 the number of modern steel-frame bridges requiring considerable initial cost has increased to ten times the original figure, whilst the number of bridges of more primitive design has declined.

One of the main reasons for this was the 1923 earthquake in Japan, which destroyed a large part of the bridges around Tokyo and Yokohama. Bridges of modern type were constructed to replace the ancient earth and stone bridges. It is in consequence of this that, as appears from the calculations of K. Mori, the value of the bridges of Japan has increased rapidly during recent years.*

The assessment of the value of the roads and bridges of Japan is rather difficult. Exact values have been ascertained for the bridges only, their total value having been calculated by K. Mori as amounting in 1924 to roughly 374 million yen. The assessment of the value of roads, however, is much more difficult. Nevertheless, if it is considered that the ratio between the lengths of roads of the various categories is approximately the same in Japan as in Korea, the value of the roads may be roughly estimated by multiplying the length of the roads of Japan by the average figure of the cost of construction of roads in Korea. As the latter amounted to 10 million yen for the 1,700 miles constructed during the period 1910–17, and to nine million yen for the 1,200 miles constructed from 1917 to 1928 (*i.e.*, on an average to 7,410 yen per mile), the total value of the roads of Japan of a total length of 100,000 kilometres is 411,682,000 yen.

This figure does not include the value of the 825,000 kilometres of local roads.†

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* According to K. Mori, the value of the bridges of Japan in 1905 amounted to 51,250,000 yen only. Even in 1913 this figure had only risen to not quite 95 million yen. In 1919 after the large bridge-building programme was completed the value of bridges amounted to 234 million yen, whilst in 1924 it rose, with the bridges constructed after the earthquake, to 373,820,000 yen.

† The value of the land occupied by the roads is stated by K. Mori to have amounted in 1924 to 190,193,000 yen.

# CHAPTER IX

## ROADS IN CHINA

As explained in Chapter VI of Part II a large part of the internal traffic of China is carried on by means of the highly developed canal and river system.

This is no doubt the main reason why no attention is paid by Chinese Governments to the maintenance of the considerable ancient road system. For a long time Chinese Budgets made no provision for the maintenance and improvement of roads at all, whilst during the last decades, when China was brought to the verge of State bankruptcy by the internal civil wars,* the construction of a road system to cover the immense territory of the Chinese Empire was not even to be thought of.

Of the Chinese Budget, which amounts to about 500 million dollars, about 150 million dollars go to pay the interest and amortisation service on foreign loans, whilst the total amount expended for communication purposes is only between two and three million dollars.

The increase of military expenditure, due to the civil wars, has also prevented the employment of any appreciable amount of productive investments like road construction.

With regard to the present road system of China, not even approximate data are available. We only possess figures concerning the most important high roads traversing the country. These high roads may be subdivided roughly into eight groups. Their total length amounted in 1929 to about 56,000 kilometres. According to the " Statesman's Year-book," 34,810 miles of roads were in 1929 suitable for motor traffic. Hereof the regions around the Yangtze-kiang account for about 25 per cent. The substructure of the roads is very poor and the whole road system recently constructed is of the macadam type. In the constitution of the roads care has been taken to ensure that the roads should cross the waterways at right angles, and this should help to bring traffic to the latter. The groups into which the high roads of China may be divided are as follows:

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* In the fiscal year 1928–29 expenditure exceeded State income by roughly 50 million Mexican dollars.

First Group. Caravan roads leading from Peking to (*a*) Tientsin; (*b*) Urga and Mongolia; (*c*) Peking-Tsetsen road; (*d*) Peking-Mukden road; (*e*) road leading from Peking *viâ* Cheng-ting to Si-an and Kai-feng.

Second Group. Roads leading from Kai-feng (*a*) to Si-an *viâ* Hoan; (*b*) to Hankow, *viâ* Suchow; (*c*) to Pukow-Nanking *viâ* Chen-chow.

Third Group. From Chinan to (*a*) the Kiang-su province; (*b*) Pukow-Nanking.

Fourth Group. From Fochow *viâ* Yen-ping to Nanchang and Hangchow; (*b*) *viâ* Wen-chow to Hangchow and Ningpo.

Fifth Group. Roads starting from Canton (*a*) *viâ* Huichow to Fukieng and Changchow; (*b*) *viâ* Sinchow to Kiangsi; (*c*) to Kwangchow and Keiling.

Sixth Group. Roads starting from Yunan (*a*) to Hanoi (French Indo-China); (*b*) to Teng-Yuah and into British Burma; (*c*) to Suchow along the Yangtze-kiang.

Seventh Group. From Cheng-tu to (*a*) Si-an; (*b*) Kweichow; and (*c*) Sing-yang.

Eighth Group. From Lan-chow (*a*) to Kukunor in Tibet; and (*b*) into Inner Mongolia.

The width of Chinese high roads varies; on the lowlands it is between 20 and 25 feet, whilst in the highlands it hardly exceeds 5 feet, for which reason the roads are unable to cope with any intense traffic.

As mentioned before, internal communication in China takes place mostly by means of the canal and river system, which not only diverts the traffic from roads, but is also a powerful rival to the railways, as explained in Chapter VI of Part II.

No essential change in this state of things is to be expected in the near future, although the vast programme of reconstruction devised for China by Sun-Yat-Sen includes plans for the construction of a road system of nearly one million miles in length.

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# CHAPTER X

## MOTORING IN THE FAR EAST

ONE of the special characteristics of the motor car as a means of communication is its speed and its ability to use roads for getting from any one point to any other point in the country, and so carry passengers and goods from house to house. Not very long ago it was still supposed that urban passenger traffic was the main field of the motor car. The statistics of recent years have, however, shown that motor cars are also suitable for inter-urban traffic, and the steady increase in the number of motor lorries proves that in the transport of goods of high specific value per unit of volume motor lorries are becoming powerful rivals of the railways.

Certain conditions are, however, indispensable for the development of motor traffic. The first of these is the existence of a well-maintained and close network of roads. It is also essential that oil, from which petrol is derived, should be cheap and plentiful ; it is particularly advantageous if oil is found in the country itself. The existence of a prosperous population engaged in industry and commerce, and maintaining a high standard of living, also largely contributes to the development of motoring. Geographical circumstances exert an indirect influence on it by determining the cost of road construction.

We will now examine the position of the two Far Eastern countries from this standpoint.

In previous chapters we discussed the present condition and the density of the network of roads in China and Japan and found that conditions are not very favourable in this respect, although in recent years Japan has been displaying a considerable amount of activity in the field of road construction. As regards the occurrence of oil in the country, the position of Japan is relatively favourable, as there are a number of oil wells in the southern part of Sakhalin, which in 1928 supplied 2,300,000 barrels, or 0·17 per cent. of the total world production of oil. A large part of this supply of oil is, however, apart from other demands (army, fleet of airplanes, etc.), required for the up-to-date Diesel motor ships of Japan's maritime shipping. Moreover, the transport of the oil from the scantily populated island of Sakhalin, situated in the far north, is rather costly, although a special tank fleet is available for this purpose.

On Chinese territory also oil is found in the district of Sanshi and in Manchuria, but the degree to which this oil is utilised has up to now been insignificant. The development of an oil industry is only possible where capital is available and a certain degree of industrialism exists; this is the case in Japan, but not in China, although it is hoped that conditions will improve in China in this respect in a not too distant future.

The geographical conditions of China do not favour the development of motoring, as the greater part of its vast territory consists of mountainous regions where the construction of roads is difficult. There are also other disadvantages due to the enormous area of the country; for instance, the huge distances render the transport of petrol to the more important storage and distribution points difficult and expensive.

As things stand at present, it may be hoped that, although in the Far Eastern countries the necessary preliminary conditions for the development of motoring are to-day still wanting, motoring will nevertheless develop there in course of time, and that in Japan it will develop within a few years, as soon as the reconstruction of roads is completed. Less is to be expected in China, where it would first be necessary to develop the road system to a suitable modern level, and where the population must first be made more amenable to Western civilisation. The time when this state of things will exist is so far distant that it is quite possible that motor cars will by then, owing to the development of engineering, already have lost their importance as means of communication. A certain number of Chinese provinces, however, chiefly those situated near the seaports, where industrialisation and civilisation reach a much higher level than in the other Chinese provinces, will reach the stage necessary for the development of motoring in a much shorter time. Ninety per cent. of the motor traffic of China serves the purposes of passenger traffic.

Another circumstance which hampers the more general use of motor cars in the Far East is the type of building and street construction usual in the large cities of Japan and China. It is large cities which are the birthplace of motoring ; it is from there that it spreads to the country. In a large part of the Far Eastern cities the streets are to this day of so narrow and winding a type as to make it most difficult for a large number of motor cars to circulate in them. In Japanese towns a considerable advance is noticeable in this respect ; Tokyo and Yokohama after the earthquake in 1923 were entirely re-built on the American plan, with long straight asphalt-paved avenues, which favour the use of motor cars, rendering rapid, unhampered transit possible. Osaka, the city second in size among Japanese cities, also possesses a fairly large number of wide avenues, but the districts between the avenues present a network of narrow streets, where the motor car is unable to fulfil one of its most characteristic functions, viz., to render access to any desired place possible. In Kobe, one of the largest ports of Japan, the situation is still worse, as in this city there are only about ten thoroughfares, in the European sense of the word, where it is possible for intense motor car traffic to develop without endangering safety.

Among Chinese towns, the large inland towns, such as Nanking, Peking and Hankow, are also constructed disadvantageously from this point of view. Hongkong and Shanghai, however, which were planned on entirely British lines, form an exception in this respect. The first-named city, which is a British colony and one of the great commercial centres of the world, is, from the point of view of its street system, as well as in other ways, entirely suitable for the requirements of motor traffic, but as it is a town situated on an island and having customs boundaries of its own, its importance in the development of motoring is only such as an independent town can possess.

Shanghai, on the other hand, possesses a relatively large district inhabited by a European and American population. This city, being the commercial and financial centre of China proper, contains among its inhabitants a large number of persons who, owing to their financial and business standing, are in a position to keep motor cars. Except for these two cities, however, the preliminary conditions referred to above necessary to the development of motoring are still lacking.

Finally, it should be mentioned that Japan, which is an incomparably greater military power than China, is compelled to follow the principle of modern warfare, *i.e.*, to employ motor transport for army purposes, and it may be that this circumstance will, although only indirectly, accelerate the creation of such preliminary conditions as are required for the development of motor traffic in Japan to an extent commensurate with the importance of this country.

The following figures will serve to furnish a more exact picture of the development of motoring in the Far Eastern countries. The figures relate to January 1st, 1933, those for motor lorries to 1930.

| Country. | Passenger motor cars. | Motor lorries (1930). | Total number of motor vehicles. | Motor bicycles | Number of inhabitants per motor vehicle. |
|---|---|---|---|---|---|
| Japan . . | 57,019 | 25,700 | 151,761 | 49,703 | 576 |
| China . . | 27,473 | 10,080 | 44,462 | 2,860 | 15,979 |
| Hongkong . | 2,305 | 269 | 3,470 | 334 | 271 |

(It should be remarked that it is during the last two years that the development of motoring in the Far

Eastern countries has received a striking impetus. At present the number of motor vehicles in Japan approaches 152,000, whilst about 7,000 motor vehicles were imported into China in 1929 and 1930.)

The relatively large proportion of motor lorries in Japan is an indication of the important *rôle* played by motor cars in the trade of that country. The rapid increase of motor lorries in Japan is shown very clearly in the following table showing the development of motor traffic in Japan during recent years :

| Year. | Passenger motor cars | Motor lorries. | Year. | Passenger motor cars. | Motor lorries. |
|---|---|---|---|---|---|
| 1919–20 | 5,109 | 444 | 1925–26 | 18,562 | 7,884 |
| 1920–21 | 7,023 | 889 | 1926–27 | 24,970 | 10,832 |
| 1921–22 | 8,265 | 1,383 | 1927–28 | 31,826 | 14,467 |
| 1922–23 | 9,992 | 2,099 | 1928–29 | 40,281 | 20,252 |
| 1923–24 | 11,679 | 3,058 | 1929–30 | 45,855 | 25,700 |
| 1924–25 | 14,809 | 5,778 | 1933 | 57,019 | — |

In Tokyo a total number of 11,792 motor vehicles were running in 1929–30 ; of these 3,488 were motor lorries. In Osaka, the largest industrial city of Japan, the number of passenger motor cars was, in 1929, 3,657.

It is expected that the curve illustrating the number of motor vehicles in Japan, which already shows a fairly steep rise, will show a much steeper one very soon, because Japan has also reached a stage of industrial development at which motor vehicles are bound to play an important *rôle*. It is obvious from what has been said that Japan constitutes one of the most important markets for the American motor car industry. Development in the near future will also make necessary the establishment of a motor car factory in Japan, which will, in addition to satisfying home requirements, probably also market a part of its products in China.*

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* In 1927 300 motor cars were manufactured in Japan ; in 1928 the number rose to 500. See " Die Wirtschaftlichen Krafte der Welt," Dresdner Bank, Berlin, 1930, p. 146.

The most important problem in connection with the development of motoring, viz., the competition between motor cars and railways, has been discussed in Chapter I of Part II.

The value of motor vehicles in Japan in 1929–30 may be reckoned as amounting to about 176 million gold yen. (With regard to the method of calculation, see Professor F. de Fellner: " La fortune Nationale de la Hongrie actuelle. Bulletin de l'Institut Internationale de Statistique " (Tome XXIV, 2, page 412 passim).)

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# CHAPTER XI

## AERIAL TRANSPORT IN THE FAR EAST

AMONG all means of communication, airplanes and airships have the shortest past to look back upon. It is, in fact, still impossible at the present time to define the specific function of aerial transport in the economic life of mankind, as the rapid progress made by engineering science in this field is constantly changing the *rôle* played by this branch of transport. (Construction of giant airships, recent experiments with regard to flying in the stratosphere, etc.) At present speed appears to be the most characteristic advantage of aerial vehicles, as against which they possess the drawback of being able to transport only a small number of passengers, or a small quantity of goods, in consequence of which aerial transport is very costly. Thus it is only in the field of passenger and mail transport that aerial transport possesses particular importance, whilst as far as the transport of goods is concerned, it can only be used for special kinds of articles of luxury when the high cost of transport is of no importance. In passenger and mail transport also its field is limited, because in the present stage of development of engineering science aerial transport can only be of importance for the connecting up of large, densely populated centres situated at a relatively great distance from each other.

When discussing the position of aerial transport in the Far East, Japan and China have to be dealt with separately. Her geographical position, as well as her economic importance and the higher degree of civilisation attained by her population, render Japan eminently fitted to play an important part in international aerial traffic.

Japan is a densely populated country whose commerce and industry is developing at a rapid rate, and who is to-day economically one of the most important territories of the world, coming next in importance to the U.S.A. and Europe. It is therefore necessary that she should be connected with these two territories by rapid routes for passenger and mail transport. However, the distances which separate Japan from Europe on the one hand, and from North America on the other hand, at present still prevent the development of aerial communications between these parts of the world and Japan. Attempts, however, have been made and continue to be made, and there is no doubt that the development of engineering science will soon remove the difficulty. (Eckener's flight, Berlin-Tokyo-America-Berlin, and a great number of Trans-Pacific flights from North America to Japan and from Europe to Tokyo.) Besides, it is an important fact, favourable to the development of aerial traffic, that the economic centres of Japan, as mentioned before, are arranged in two main groups: the Yokohama-Tokyo group and the Osaka-Kyoto-Kobe group, and that, further, this last-named group is practically equidistant from the three most important regions of China—the natural field of expansion of Japan—namely, from Mukden as the centre of South Manchuria, from Shanghai as the most important port of China and the gateway leading to the Yangtze-kiang valley, and from Tientsin and Peiping, the cultural centres of North China. Accordingly, it would be advantageous to establish aerial communications between the centres named, as these lines would, on the one hand, connect the two industrial and commercial centres of Japan, and, on the other hand, connect these centres with the centres of China, and thus further the steadfastly pursued economic policy and foreign policy of Japan, which aims at creating a foothold for Japan on the continent of Asia and at the economic exploitation of China.

Aerial traffic is, in fact, fairly highly developed in Japan. A number of large newspaper concerns are, as do newspaper concerns in the U.S.A., maintaining special airplane services between Tokyo and Osaka. The Japanese Government in July, 1932, voted seven million yen for the creation of a new airline and for the construction of ports for aerial traffic. Unemployed agriculturists have been employed for carrying out the earthwork in connection with the establishment of the aerial ports. It is intended to complete the work by 1935.

The development which has taken place during recent years is seen from the following table :

| | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1931 |
|---|---|---|---|---|---|---|---|
| Number of air pilots . | 107 | 128 | 188 | 234 | 275 | 336 | 460 |
| Number of flights . . | 4,815 | 7,858 | 11,765 | 14,747 | 17,987 | 17,528 | 30,018 |
| Number of airplanes . | 51 | 53 | 67 | 82 | 86 | 160 | 122 |
| Kilometrage of flights . | 273,765 | 404,921 | 597,250 | 762,354 | 878,230 | 1,106,802 | 2,346,052 |
| Number of hours of flight | 2,331 | 2,523 | 4,688 | 5,949 | 7,313 | 8,393 | 15,459 |
| Number of airplane, airship and airplane engine works . . . | 11 | 11 | 11 | 11 | 12 | 13 | — |

The data of the last period, namely, of the years 1930–31, are given in an article by C. H. Pollog in the " Weltwirtschaftliches Archiv," in which the present condition of aerial traffic in Japan is also described. According to this article, regular aerial service was maintained at the time referred to on the following lines :

1. Tokyo-Osaka-Fukuoka-Urusan-Keyo (Söul), with a junction line from the last-named town to Dairen. This line can be considered as the uncompleted branch of the Japan-Manchuria line, which will, no doubt, be established sooner or later. It is owned by the Nihon Koku Yusho K.K.

The same company has also obtained a concession for the establishment of the line Osaka-Fukuoka-Shanghai, intended to ensure the connection, referred to above, with the Yangtze-kiang valley.

2. The Tokyo-Yto-Shimidzu line possesses importance chiefly for inland mail transport ; its concession is owned by the Tokyo Koku Yushosa.

3. The Tokyo-Niigita line. The concession is owned by the Asahi Teiki Kokukai.

4. The Osaka-Takamatdzu-Matsuyana line, owned by the Nihon Koku Yusho K.

The position of Japan as a military power influences the development of aerial communications in Japan favourably, attracting to the latter the attention of official circles as well as of the general public.

Of Japanese air ports, that of Osaka, which occupies a central position, as well as that of Tokyo, should be mentioned. The importance of the latter will be greatly increased as soon as the proposed Trans-Pacific service is installed. The air port of Tokyo covers an area of 160,000 tshubo; a sum of 500,000 yen has been allotted for its extension. The extension of the Fukuoka air port will also take place in the near future.

As in all other respects, China remains far behind Japan with regard to aerial traffic, although many circumstances, particularly the enormous size of the country, the density of its population and the undeveloped condition of its road system, would greatly favour the development of an active air traffic.

However, development of aerial traffic is hampered in China by two characteristics of the population, viz., its very low standard of life and its persistent objection to modern improvements. In fact, it can hardly be expected that any inland air traffic will develop in China within an appreciable time. What is likely to happen at a less remote date is that China will begin to play a *rôle* as a transit territory in the air traffic between Europe and Japan. In this connection, however, it is only North China and Shanghai that can be considered, as the air route would probably follow the line of the Trans-Siberian Railway, because the natural configuration of the regions situated south of this is such that these regions present great difficulties to flight over them (highland of Tibet, Himalaya). Nevertheless, a Chinese native company* has maintained since 1929 an air route between Shanghai, Nanking and Hankow, which forms the natural continuation of the Osaka-Shanghai line mentioned above.

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* China National Aviation Corporation.

The importance of this route, however, depends on factors outside communication policy, for instance, on political groupings, provisional Governments and provisional capitals like Nanking, etc., so that it may at any time be discontinued if the particular reasons for its maintenance cease and centres of gravity shift to other parts of China.

A more important event is the agreement concluded with the Chinese Government by the German Lufthansa. This may be considered as the first attempt (which no doubt will be followed by others on the part of British, Russian and other air transport enterprises) of Europe to acquire rights in the Far East on a new basis. According to this agreement, the two contracting parties have founded a company called the Eurasian-German-Chinese Air Traffic Company, which began its activity in the summer of 1931 on the Mukden-Peking-Tientsin-Shanghai line.

Beyond doubt this new line will form the first link of the proposed Berlin-Tokyo line, and in the near future the settlement of a large number of questions will be necessary. Thus the U.S.S.R., Japan, Great Britain, France and the U.S.A. will all have to declare their attitude towards the new enterprise, the maintenance of which depends on a large number of circumstances (as, for instance, what rule Manchuria will be under, the agreement which will necessarily have to be concluded between Germany and the U.S.S.R., etc.). Traffic on this line is now suspended owing to the hostilities in Manchuria, but it is intended to resume this as soon as the fighting is over.

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# CHAPTER XII

## POST, TELEGRAPHS, WIRELESS TELEGRAPHS AND TELEPHONES IN THE FAR EAST

THE transmission of messages presents itself as a first requirement wherever human beings live. With the development of economic life, the post office, which undertakes the transmission of messages, has (aided also by the development of engineering) assumed more and more new functions (transport of passengers, parcels and of money or other valuables). Postal service is of the highest importance in economic life and the life of the State, and its main principle ought to be that the task entrusted to it by each citizen of the State should be carried out by it in accordance with uniform rules and in return for uniform rates of payment.

It follows from the nature of the post office that it cannot be a profit-earning enterprise. All that it can endeavour to do is to cover its own cost, *i.e.*, to be a self-supporting institution. In most cases, however, postal administration does not succeed in achieving this end, and it is either compelled to receive State subsidies (as is the case, for instance, in China) or to establish institutions transacting other business not strictly postal, as, for instance, postal savings banks. Postal savings banks exist in many countries (Great Britain, France, China, etc.), and the profits made by these and other similar institutions serve to make up for the losses suffered by the postal administrations in the postal service proper.

That the postal service, which in former times was profitable, is no longer capable of producing profits is due in the first place to the fact that, whilst up to the first half of the last century, the post office was almost the only carrier of passenger traffic, it has, owing to the development of railways, lost the revenue derived from this branch of its activity. It is, indeed, in consequence of this that the postal service has ceased to be a private enterprise, and that everywhere the State has been compelled to take it over. Now that motor cars and motor buses begin to take the place of railways in many regions, the post office again begins to play a part in passenger transport. (See, for instance, the Alpine postal routes in Switzerland.)

Owing to the fact that the postal service is managed by the State, the post office is able to offer many facilities to the public. Thus it is able to ensure the forwarding of postal consignments by the various communication institutions gratuitously or at cost price (railway postal cars, mail ships, etc.).

After this short survey of the general problems of postal service, we will, in what follows, describe the present condition of the postal service in Japan and China. It will be convenient to deal separately with each of these two countries.

## 1. Postal Service in Japan

Already in mediæval Japan there existed a number of courier services between the courts of the various Shoguns; thus, among others, there existed a regular courier service under State supervision on the Tokaido road. In addition, courier services were maintained, jointly, by thirteen merchant families; moreover, we gather from certain sources that a kind of Bell telegraph existed for the transmission of messages as early as 850 B.C.

The development of the Japanese postal service was greatly advanced by the war between Japan and China. (See "Encyclopædia Britannica," 11th Edition, Volume 15, p. 195.) The possibility of rapid communication with the army and the increased tasks incumbent on postal service in war time have made it clear to the Japanese Government how necessary it is for Japan to possess a well-planned postal service between the mother country and the continent of Asia, if the Japanese nation is thinking of serious expansion on that continent. The increased importance of Japan among merchant nations of the world, achieved in the meantime, has given a new impetus to the development of the postal service, which resulted in over-administration in some places, and owing to this the Japanese post office has begun to operate at a considerable loss.

In 1879 the number of post offices was only 179. The development of the Japanese postal service may be seen from the figures for 1928, published below:

| Name of country. | Number of post office employees. | Number of post offices. | Number of square kilometres per post office. | Number of inhabitants per post office. |
|---|---|---|---|---|
| Japan | 180,753 | 9,393 | 41 | 6,628 |
| U.S.A. | 288,503 | 51,630 | 190 | 2,133 |
| Great Britain | 229,157 | 20,702 | 12 | 2,214 |
| Germany | 245,909 | 33,041 | 14 | 1,931 |

### DATA CONCERNING JAPANESE POSTAL TRAFFIC

| Year. | Number of post offices. | Routes. | Number of letters forwarded. | Number of parcels forwarded. |
|---|---|---|---|---|
|  |  | Kilometres. |  |  |
| 1919 | 7,764 | 78,243 | 2,783,803,434 | 40,246,772 |
| 1923 | 8,477 | 76,586 | 4,126,958,030 | 51,355,991 |
| 1927 | 8,916 | 64,328 | 3,974,192,623 | 58,258,644 |
| 1928 | 9,114 | 63,598 | 4,863,287,510 | 60,555,887 |
| 1929–30 | 11,038 | — | 5,096,611,368 | 63,650,583 |
| 1930–31 | 11,296 | — | 4,409,551,651 | 60,067,753 |

(The above data are taken from the article, "The Post Office," in the "Hungarian Encyclopædia of Political Economy" and from the "Economic and Financial Annual of Japan," 1931.)

The turnover in postal remittances handled by the Japanese post office is also of considerable magnitude. A great part of this turnover consists of remittances between

Japanese emigrants and such members of their families as remained at home. About 1910 postal remittances from Japan amounted to £25,000, whilst postal remittances to Japan amounted to £450,000. (See "Encyclopædia Britannica," 11th Edition, Volume 15, p. 196.)

Although the Japanese post office handles a relatively large turnover, it was, in 1928, operating at a substantial loss. (As against receipts amounting to 295,379,000 francs, expenses amounted to 427,658,000 francs, resulting in a deficit of 132,280,000 francs.*) One of the main reasons for this deficit was no doubt, in addition to the too expensive buildings erected after the earthquake, due to the fact that expenses for personnel as well as for material objects were rather overestimated.

The most important of the institutions which are being maintained in order to lessen the deficit of the Japanese post office are the post office savings banks. The following table supplies more detailed data with regard to their turnover :

| Year. | Number of accounts. | Amount of balances. | In Tokyo alone. |
|---|---|---|---|
| 1914–15 . | 12,909,927 | 195,896,000 | 22,124,000 |
| 1922–23 . | 27,066,233 | 994,976,000 | 134,085,000 |
| 1927–28 . | 32,749,372 | 1,634,226,000 | 254,009,000 |
| 1929–30 . | 34,865,357 | 1,861,956,000 | 278,486,000 |
| March, 1931 | 36,719,034 | 2,495,348,632 | — |
| March, 1932 | 39,396,330 | 2,796,189,761 | — |

When comparing the number of accounts with the amount of balances as shown in this table, it is seen that the great majority of balances are very small, hardly amounting to a few yen. Although in European countries also the majority of postal savings bank deposits are largely small deposits (larger deposits are usually placed with joint-stock banks) the average amount of Japanese postal savings bank deposits remains below that of the usual European average deposits.

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* The source from which these figures are taken (article, "The Post Office" in Vol. IV of the "Hungarian Encyclopædia of Political Economy") does not state whether these are gold francs or French francs.

The decline in value of the yen which has taken place since 1929–30, during the years 1931 and 1932, and which has led to the gradual withdrawal of savings bank deposits, has no doubt considerably diminished the amount of the postal savings bank deposits as well; no exact data are, however, available in this respect up to now. The economically important function of postal savings banks in Korea is discussed on p. 250. (The data are taken, with regard to Japan, from the "Statistical Report of the Tokyo Chamber of Commerce and Industry," 1929; with regard to Korea, from the "Annual Report of the Administration of Chosen," 1928; with regard to Formosa, from the "Financial and Economic Annual of Japan," 1929 and 1932.)

In addition to postal savings banks, another important activity of the post office in Japan must be mentioned. This is life insurance through the post office. It is possible to make, through any post office, contracts for life insurance, under conditions very similar to those required by insurance companies. Although this must necessarily appear in the light of competition of a State institution in a branch of business usually carried on by private companies, the activity of the Japanese post office in this direction should be judged in the same way in which the institution of postal savings banks adopted by nearly all countries is viewed. The Japanese post office is certainly one of those post offices of the world which operate at the greatest loss, and as it is vitally important to the whole economic life of Japan that the post office should operate as well as possible, the economic life of Japan has to make certain sacrifices in order to lessen the deficit of the post office. In 1916–17 the total number of persons insured in Japan was 261,469, and the amount for which these persons were insured was 22,508,000 yen. Eleven years later, in the fiscal year 1927–28, the number of persons insured already amounted to 11,666,433, and the amount for which they were insured to 1,486 million yen. The amount of insurance premiums collected during that year was 8,485,000 yen, as compared to 107,000 yen eleven years before. At present (1931) the number of persons insured is 15,626,000 and the amount insured 2,000 million yen. These figures prove how rapidly this branch of business has become popular. (See for details the "Statistical Report of the Tokyo Chamber of Commerce and Industry," 1929, Table 62.) The number of post offices in Korea was in 1932 781.

*Telegraphs* were first introduced in Japan in 1869, when a telegraphic service was opened between Tokyo and Yokohama. The construction of telegraph lines made rapid progress from 1873 onwards. (Cable lines were laid and a telegraphic trunk line, connected with the cable line to Shanghai, was established between Tokyo and Nagasaki.) In 1930–31 the total length of telegraph lines was 35,500 kilometres.

The development of the telegraph is shown by the table on page 248.

(The decrease noticeable from time to time during the last years can be attributed to the wider use of telephones in the meantime.) In 1890 the total number of telegraph offices was only 309 and the total number of telegrams despatched only 4,129,610.

Owing to its geographical position, Japan, being a country consisting of a number of islands, possesses a highly developed cable system. The length of cable lines was in 1897, 26 ri; in 1900, already 960 ri; in 1910, 2,168 ri; in 1928, 4,644 ri. The most important cable lines of Japan are the following:

1. The line leading from Nagasaki to Keelung (Formosa).

2. The line leading from Kagosima to Keelung, through the Riu-Kiu Islands.

3. The line leading from Yokohama over the Bonin Islands to Guam, where it is connected with the Trans-Pacific cable line owned by the U.S.A. and mentioned on p. 340.

In addition to these, cable lines connect every fairly important island with the main island, and through the latter also with each other. According to a French publication (H. Thomas, " Les Cables Sous-Marins," in the May 15th–20th, 1906, issue of the *Revue Économique Internationale*), Japan possessed, in 1906, 124 cable lines having a total length of 2,153 miles.

The lengths of lines are stated in Japanese ri (1 ri = 3,930 metres).

| Year. | Length of lines. | Year | Length of lines. | Number of telegrams. |
|---|---|---|---|---|
| | Ri. | | Ri. | |
| 1879 | 1,492 | 1904 | 6,748 | — |
| 1880 | 1,697 | 1905 | 6,845 | — |
| 1881 | 1,846 | 1906 | 6,911 | — |
| 1882 | 1,962 | 1907 | 7,213 | — |
| 1883 | 2,628 | 1908 | 7,407 | — |
| 1884 | 2,188 | 1909 | 7,553 | — |
| 1885 | 2,217 | 1910 | 7,771 | — |
| 1886 | 2,242 | 1911 | 7,998 | — |
| 1887 | 2,321 | 1912 | 8,031 | — |
| 1888 | 2,490 | 1913 | 8,045 | — |
| 1889 | 2,548 | 1914 | 8,055 | — |
| 1890 | 2,824 | 1915 | 8,087 | — |
| 1891 | 3,143 | 1916 | 8,141 | — |
| 1892 | 3,456 | 1917 | 8,199 | — |
| 1893 | 3,709 | 1918 | 8,257 | — |
| 1894 | 3,846 | 1919 | 8,310 | 118,685,505 |
| 1895 | 3,882 | 1920 | 8,412 | 151,576,819 |
| 1896 | 4,720 | 1921 | 8,735 | 140,341,892 |
| 1897 | 5,139 | 1922 | 8,929 | 140,166,244 |
| 1898 | 5,296 | 1923 | 9,090 | 140,7 3,577 |
| 1899 | 5,688 | 1924 | 9,083 | 138,213,552 |
| 1900 | 6,040 | 1925 | 9,083 | 142,091,982 |
| 1901 | 6,378 | 1926 | 9,139 | 140,169,976 |
| 1902 | 6,607 | 1927 | 9,156 | 137,351,590 |
| 1903 | 6,754 | 1928 | 9,177 | 137,870,350 |
| | | 1930–31 | — | 61,150,590* |

The Japanese Wireless Telegraph Company (Nihon

* Telegrams received.

Musen Denshin Kaisha) possesses a capital stock of 20 million yen, and its main transmitting station is situated in the Hibya Gardens in the centre of Tokyo. The company is under the direct control of the Japanese Government, and possesses, in addition to the station named, further stations in Osaka, Nagoya, Yosami and Kaizo. In 1919 the number of telegrams forwarded by wireless telegraphy was 177,675, whilst in 1928 it already amounted to 539,373. In Korea there existed in 1927–28 only wireless telegraph stations for the direction of shipping.

A more important part is played by telegraph lines in Korea. (See " Annual Report of Chosen, Keijo," 1930.) A telegraph service was instituted first in Fushan by the Japanese to create a connection with the mother country. (The cable line between Fushan and Shimonoseki, which was originally owned by a private company, was purchased by the Japanese previously.) The number of telegraph offices was in 1905 forty-four, in 1930 already 789. On March 31st, 1931, the length of telegraph lines was 24,353 lines and the number of telegrams despatched 11,337,000.

A fairly important part has been played in Korea by the Japanese postal savings banks. Their number is at present 680, and they have exercised an important function in effecting payments during the first years of the colonisation of Korea. In 1880 it was still only the Japanese post office of Fushan which was authorised to make payments, and in view of the fact that at this time no banks existed in Korea, this post office was handling a fairly large sum. As the possibilities of making money bear interest as a savings bank deposit is generally unknown to the Korean population, the number of Korean depositors in the Korean postal savings bank is still relatively low, but it is increasing. More detailed data may be found in the table on page 250.

As the Korean population becomes familiar with savings bank deposit business, the amount of deposits in Korean postal savings banks will probably rise, particu-

| Year.* | Total amount of Japanese deposits. | Total amount of Korean deposits. | Average amount of the deposit of a Japanese depositor. | Average amount of the deposit of a Korean depositor. |
|---|---|---|---|---|
| | Yen. | Yen. | Yen. | Yen. |
| 1910 | 3,016,420 | 190,045 | 28.98 | 5·44 |
| 1920 | 14,767,405 | 2,326,166 | 48.27 | 2.16 |
| 1925 | 18,527,307 | 3,005,867 | 37·82 | 2.46 |
| 1927 | 23,007,613 | 3,720,612 | 42.29 | 2.63 |
| 1930 | 33,726,244 | 5,126,622 | 56.70 | 3·37 |
| 1932 | 41,432,669 | — | — | — |

larly as the Korean population is an agricultural one, and it is agriculturists who form a considerable part of

| Year. | Line. | Wires. | Year. | Line. | Wires. |
|---|---|---|---|---|---|
| 1890 | 50 | — | 1911 | 2,705 | 159,253 |
| 1891 | 92 | — | 1912 | 2,996 | 187,652 |
| 1892 | 153 | — | 1913 | 2,814 | 201,011 |
| 1893 | 165 | 1,803 | 1914 | 2,941 | 215,849 |
| 1894 | 176 | 1,900 | 1915 | 3,122 | 229,906 |
| 1895 | 178 | 2,156 | 1916 | 3,289 | 242,636 |
| 1896 | 216 | 2,823 | 1917 | 3,490 | 267,870 |
| 1897 | 314 | 6,729 | 1918 | 3,836 | 287,915 |
| 1898 | 597 | 12,817 | 1919 | 4,103 | 318,835 |
| 1899 | 619 | 18,136 | 1920 | 4,478 | 355,123 |
| 1900 | 759 | 25,651 | 1921 | 5,186 | 400,215 |
| 1901 | 913 | 35,235 | 1922 | 5,902 | 490,491 |
| 1902 | 1,037 | 43,331 | 1923 | 6,033 | 491,042 |
| 1903 | 1,163 | 46,395 | 1924 | 6,363 | 588,339 |
| 1904 | 1,299 | 49,640 | 1925 | 9,626 | 765,384 |
| 1905 | 1,311 | 50,991 | 1926 | 10,394 | 887,289 |
| 1906 | 1,521 | 56,139 | 1927 | 11,437 | 1,030,477 |
| 1907 | 1,949 | 71,899 | 1928 | 12,641 | 1,094,618 |
| 1908 | 2,260 | 86,060 | 1929 | 31,105 | 2,790,136 |
| 1909 | 2,341 | 107,627 | 1930 | 34,075 | 3,041,308 |
| 1910 | 2,550 | 128,163 | 1931 | 35,806 | 3,277,737 |

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* On March 31st, 1929, the total amount of deposits was 36,286,418 yen, whilst the number of depositors was 2,098,602. In 1931 deposits amounted to 38,851,000 yen, whilst the number of depositors was 2,118,000.

savings bank depositors in all countries. In Formosa the number of postal savings bank depositors amounted in 1927–28 to 483,256, and the amount of their deposits to 13,344,311 yen.

A regular *telephone service* was introduced in Japan in 1890.* Since then it has developed, as shown by the table on page 250. The figures represent Japanese *ris* (1 ri = 3·930 metres) up to 1928, and *miles* from that date onward.

The number of telephone subscribers was, in 1890, 821; in 1905, 36,398; in 1924–25, 442,851; and in 1927–28, 609,146, which, in view of the large population of Japan, is not a particularly high figure. During 1929–30 the number of subscribers rose to 690,043, whilst in 1931–32 it reached 915,000. The reason for this fairly low number may be found in the relatively high cost and complicated procedure of installing a telephone.† The difficulty of obtaining a telephone has led in Tokyo to the development of an institution which has no parallel elsewhere, namely, the so-called telephone number *bourse*.

Some people applied for several hundred telephones at once, and when after a long time they received them they offered these to purchasers at a moderate profit and transferred them to the names of the purchasers. Since then conditions have considerably improved, and to-day (for instance, in the summer of 1930), the installation of a telephone no longer takes so long, although even now one has to wait a considerable time before obtaining a telephone.

The number of telephone calls was, in 1924–25, 1,679,537, whilst in 1927–28 it reached 2,439,878,924 (without counting State and official calls). In 1930–31 the number of calls was 2,992,928,336. The rapid increase may be explained by the fact that in consequence of the 1923 earthquake the telephone lines were broken in the cities of Tokyo and Yokohama, which had been destroyed by the earthquake, and, in consequence, the number of telephone calls was still much less than normal in 1924–25 in these two most important cities.*

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* A few telephones of the Graham Bell type were introduced into Japan as early as 1877, but regular telephone service only began in 1890, when the Tokyo–Yokohama line was put in commission.

† About 1924, in Tokyo, anyone wishing to install a telephone often had to wait as long as a year. Besides, several hundreds of yen are charged for the installation.

In Korea the first telephone line was put in commission in 1902 between Keijo (Sŏul) and Jinsen (Chemulpo), with a total of 65 telephones. In 1905 the number of subscribers reached 1,000. In 1927 the number of telephone lines in Korea was 7,708. The length of telephone lines was in March, 1932, 90,105 miles. More detailed figures will be found in the table below †:

| Year. | Telephone centrals. | | Number of subscribers. | Number of telephone calls. |
|---|---|---|---|---|
| 1905 . | 5 | 1 | 1,065 | 8,489,530 |
| 1910 . | 32 | 185 | 6,448 | 21,260,613 |
| 1920 . | 49 | 480 | 13,142 | 59,974,020 |
| 1927 . | 125 | 509 | 29,042 | 150,069,013 |
| 1931 . | 682 | | — | 176,455,929 |
| 1932 . | — | | — | 189,408,735 |

With regard to Taiwan (Formosa), the main postal data (for the year 1932) are as follows: Number of post offices, 178; length of postal lines, 7,375 miles; number of letters and parcels consigned, 67,808,000; length of telegraph lines in 1932, 875 miles; number of telegrams in 1932, 3,031,134; length of telephone lines, 2,100 miles; number of telephone calls in 1932, 66,800,000. (See in greater detail, "The Economic and Financial Annual of Japan," 1932.)

The Japanese post office is under the control, through the Postal Supervisory Authorities, of the Ministry of Communications.

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* In 1925 the number of telephone subscribers in Tokyo was, according to the "Statistical Abstract for Tokyo," 1928, 84,053, whilst in 1929 it was 96,104. The number is relatively low as compared to the number of inhabitants (one telephone per 20·5 heads of population). The number of telephone apparatuses in Tokyo was, in 1929, 132,019. In Osaka the number of telephone subscribers was, in 1928–29, 63,834. (See "Statistical Abstract for Osaka," 1928.)

† See "Annual Report of Administration of Chosen," 1927–28.

The State offers every possible advantage to the post office: thus it obliges the railways as well as the ships of the N.Y.K. to carry postal consignments free of cost.

## 2. The Postal System of China

In China the postal service is an institution of very old standing. Many centuries ago already regular courier services from the capital to provincial centres were maintained. These courier services, however, mainly served the purposes of public administration. A large number of postal stations were established along the courier routes. A modern postal service was introduced in China, and placed under the control of the maritime customs authorities in 1878. Before this modern postal service was introduced, private postal companies had been operating in order to facilitate the sending of private letters and of silver money, as was the case in former times in Europe. (In Europe the right to have a private postal service was, for instance, held in South Germany and Austria by the Thurn-Taxis family.)

In 1920 the Chinese postal roads leading into the more important parts of this vast empire had a length of 173,360 miles, of which 144,000 miles were still served by means of couriers, whilst 22,860 miles were served by ships and junks, and only 6,500 miles by railways. (See Japanese Government Railways, " Guide to China.")

Since 1914 China has formed part of the International Postal Convention. The receipts of the Chinese post office amounted in 1929 to 38,423,000 Mexican dollars, whilst its expenditure was 37,411,000 Mexican dollars. The accounts accordingly balanced with a small deficit. The service of the foreign post offices ceased, in accordance with the agreements to this effect concluded with the Chinese Government during and after the War. (In 1910, 200 foreign, chiefly French, German, British and Russian post offices were still operating in Shanghai and Manchuria, in addition to the 4,000 Chinese post offices.)

In 1929 the number of post offices was 12,263. The development of the post office since the beginning of the present century is shown in the table below:

| Year. | 1909 | 1911 | 1917 | 1926 | 1929 |
|---|---|---|---|---|---|
| Number of letters forwarded . | 306,000,000 | 421,000,000 | 741,000,000 | 585,780,000 | 550,000,000 |
| Number of parcels forwarded . | 3,280,000 | 4,237,000 | 5,597,000 | 6,011,000 | 6,857,250 |

About 1910 the number of post office employees in China was 15,000, of whom about 200 were nationals of other countries. At the end of 1929, 37,783 Chinese and 85 foreign nationals were employed in the postal service. Since 1906 the Chinese post office has been under the control of the Ministry of Communications, whilst in former times it was under the control partly of the War Ministry and partly of the maritime authorities. This divided control was most detrimental to the reliability of the postal service. The seat of the Ministry of Communications is at present at Nanking.

One of the most remunerative branches of post office business in most countries is the post office savings bank, the profits of which often serve to cover the deficits of postal service proper.

It was only in 1919 that postal savings banks were established in China. At the end of June, 1931, the Chinese postal savings bank possessed 496 branches; the number of depositors was 131,867, with a total amount of deposits of over 24,993,000 Mexican dollars. To this should be added the deposits of small depositors, of which a separate account is kept, amounting to 2,317,288 dollars.

The reason why Chinese postal savings banks have not been able to collect a larger amount of deposits has been explained in Chapter I of Part I, when discussing conditions with regard to capital in China. Moreover the fall in value of the Mexican dollar is a fact which certainly does not tend to induce depositors to deposit their money in a savings bank.

It is persons of small income who form the bulk of savings bank depositors, but in China this class of people does not even possess the small amounts of capital which persons of similar occupations possess in Europe. Accordingly, this is another reason why it is unlikely that the amount of postal savings banks deposits will increase in the near future. Since 1904 the Chinese Government has subsidised the post office to the extent of 720,000 Haikwan taels per annum. Whether this subsidy is still paid at present is, in view of the present disordered state of things, at least doubtful.

The future of the post office depends—perhaps in a greater measure even than that of other means of communication—on the increasing economic utilisation of the resources of China.

The network of telegraphs in China has developed at a very rapid rate, and compared to the other means of communication, the telegraph service has attained a rather high stage of development. Whilst in about 1890 only the few most important towns were connected by telegraph lines with Peking, the length of telegraph lines was in 1905–6 already 14,000 miles, and the number of telegraph offices was 250. In 1907 the length of telegraph lines was 25,913, whilst the actual length of wires was nearly 40,000 miles. The number of telegraph offices had reached 490. At present (1929 data) the length of telegraph lines exceeds 52,000 miles, and the number of telegrams sent 24,501. (See "Stateman's Year-book," 1933, p. 748.)

The rapid development of the network of telegraphs in China is due to the fact that the only way to govern this vast empire, whose administration is of a very decentralised type, is by means of rapid telegraphic messages. This fact was already recognised by the Government of Imperial China. After 1912, the central management of telegraphs was transferred from Shanghai to Peking and subjected to the control of the Ministry of Communications. Since that time it has been transferred to Nanking, where the Ministry of Communications has its seat at present. Telegraph fees are relatively high in China, and telegrams written in foreign languages cost 50 per cent. more than those written in Chinese, which is due to the lack of postal employees speaking foreign languages.

In 1920 the number of telegraph offices was 675. Of the 50,000 miles of telegraph lines 49,000 miles are land lines, 102 kilometres of which are underground cables; 1,000 miles are sea cables (coast lines). The Government is gradually taking over into its own hands the management of the telegraph system formerly worked by foreign companies.

Wireless telegraphy has reached a high stage of development in China, owing to the fact that in this vast country, where the riots occurring periodically endanger the safety of the telegraph lines, wireless telegraphy represents a much safer and in many respects also a more economical type of equipment. The wireless telegraph stations, some of which are owned by Foreign Powers (on their own concession territories) were in 1924 distributed as follows:

| Name of station. | Name of province. | Name of country owning the station. |
|---|---|---|
| Urga | Mongolia | State of China |
| Chingwangtao | Chili | „ Japan |
| Shuangchiao | „ | „ China |
| Kalgan | „ | „ Japan |
| Peking (Japanese Embassy) | „ | „ „ |
| „ (Temple of Heaven) | „ | „ China |
| „ (U.S.A. Embassy) | „ | U.S.A. Navy |
| Tsinan | Santung | State of China |
| Tsingtao | „ | „ „ |
| Hankow | Hupeh | „ „ |
| Wuchang | „ | „ „ |
| Shanghai (Chinese Telegraph Administration) | Kiangsu | „ „ |
| „ (French Concession) | „ | „ France |
| „ (Woosung fort) | „ | „ China |
| Foochow | Fukien | „ „ |
| Kanton | Kwangtung | „ „ |
| Hongkong (Navy) | — | Great Britain |
| „ | — | „ „ |
| Kwangchow-wan | — | State of France |
| Yunanfu | Yunan | „ „ |

If anywhere, it is in the countries extending over a large area (like China) that the development of telegraph and telephone lines is justified. The greater the distance a telegram has to be sent, the greater the saving in time as compared to sending the same message by letter and the less also the cost per kilometre of distance.

*Telephones* have not been able to achieve such popularity in China as they possess in Europe or America. The reason is the low standard of living of the great majority of the population, owing to which they are unable to afford a telephone, and, in fact, they would derive no advantage from it. Although the most important towns and railway junctions are connected by telephone lines, which are often broken owing to disturbances caused by the civil wars, it is only in a few large cities (Shanghai, Hongkong, Nanking) where, owing to foreign companies as well as Government authorities having their seats there, commercial life, the chief factor advancing the use of telephones, is more highly developed, that a proper telephone system was able to develop. The first telephone lines were opened in Shanghai by a British company in 1881, whilst the Chinese Government only opened the telephone lines in Canton, Tientsin and Peking in 1903 and 1905. At present the telephone centrals of Hankow, Amoy, Shanghai and Foochow are in the hands of private companies. The number of telephone stations was, in 1931, 153,000.

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# CHAPTER XIII

## URBAN COMMUNICATIONS

A DETAILED study of urban communications in the Far East would require a book in itself, but a general survey of this subject will be given in what follows in order to complete the picture of the means of communication of the Far East.

The communication problems of a town are always different from those of a rural district. This follows, in the first place, from the ratio of area to the population, which means a considerable increase of the intensity of communication in towns, where often the number of inhabitants per square kilometre goes into tens of thousands, whereas in provincial districts the average density of population is only a very small fraction of such figures.

The fact that in towns various sections of the population, having different occupations, different cultural requirements and a different economic standing, are congested in a relatively small area renders necessary various means of communication ; besides the active commercial life of towns results in an entire change of the direction and density of traffic within a few hours. These are the so-called rush-hours, the hours at which employees are going to or returning from their places of employment, or those in which a great crowd is rushing towards the places where great sporting contests are held, etc.

Another important point in connection with urban communications is the change which, particularly since the War, has taken place all over the world with regard to urban residence, namely, instead of wishing to reside, as formerly, as near as possible to the economic centre of the town (*i.e.*, to the " city "), people are now more and more desirous of residing in the suburbs, in houses, since this ensures a more healthy and independent mode of life. This tendency results in an increase in the size of towns and in the specialisation of urban districts into business and residential districts, particularly in towns built on English or American lines.

One of the main requirements with regard to residential districts is that they should be as far removed as possible from the noisy business quarter, and that they should create, as far as possible, the illusion of living " in the country." On the other hand, of course, it is indispensable to people living a city life that they should have rapid means of communication available. As a result of this situation, the means of communication between residential and business quarters are made more rapid and more frequent, and often new means of communication are introduced for this purpose (as, for instance, the rapid district railways and undergound railways constructed in Berlin between the Potsdamer Platz on the one hand, and Wilmersdorf, Steglitz and Wannsee on the other hand).

In the Far East it is the urban communication problems of Tokyo and Yokohama, Osaka and Hongkong that we will investigate in greater detail.

We must first remark that for a long time the problem mentioned above, of traffic congestion at certain hours of the day, did not exist, as the greater part of the population has no fixed daily routine ; for this large section of the population there is not even a compulsory stoppage of work on Sundays.

The general plan of large towns and the types of buildings employed have a considerable influence on communications. It is therefore necessary to make a few general remarks here on the conditions which exist in this respect in the towns of the Far East.

In general, the area occupied by buildings in large towns in the Far East is very much greater when compared to their population than is the case in European towns of similar size. This is only partly due to the fear of earthquakes, which requires the construction of onestorey houses, and thus causes the town to expand in a horizontal and not in a vertical direction. The main reason is the greater gulf existing in the Far East between different layers of the population due to their different occupations or social positions (as, for instance, in India owing to the caste system), as a result of which it is hardly possible for several families to inhabit the same house. The cult of house gods (for instance, of the ancestor of the family in those houses in Japan and China where the inhabitants follow the Shinto religion) has also contributed to the general tendency for each family to live, if possible, in its own house.

Modern building methods have, in the Far East, a past of half a century only. Here American influence is clearly predominant. High office buildings of the skyscraper type and department houses of reinforced concrete are able to be constructed even in a town so exposed to the danger of earthquakes as Tokyo. Thus it is chiefly in the large commercial centres (Tokyo, Yokohama and Shanghai) that it has been possible to build a " city " of the American type, with high office buildings and wide avenues paved with asphalt.* The suburbs, on the other hand, retain their original character, and it is only a few buildings of a modern type (hospitals, barracks, etc.) which are built on European lines.

In the suburbs, the narrow and winding streets are the main obstacles to the development of electric railway and motor car traffic. Tokyo and Yokohama, which after the 1923 earthquake were rebuilt on an entirely American (chess-board) plan, are exceptions, so that to those two cities it is possible to apply European and American standards.

In Osaka, the large avenues constructed by the municipality are slowly changing the character of the town.

In most Chinese towns two independent kinds of " city," corresponding to the particular political conditions ruling there, are to be found. One of these is situated in the centre of the walled Chinese towns and was for a long time (as, for instance, in Peking) closed to traffic. This is where the offices of the higher Chinese authorities and, during the Imperial rule, the dwelling-places of the Imperial family were to be found. The other " city " developed on the European and American concession territories (foreigners' quarter, legation quarter, etc.), and it is here that the premises of the large import and export houses, the large banks and the consulates are grouped together. Such a configuration of the towns exists in Shanghai, Peking, Hankow, Canton and Tientsin, and among Japanese towns it is still found in Kobe. (In Tokyo there still exists the Imperial palace, surrounded by a wall and a moat, in the centre of the town, as in Peking.)

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* Office buildings of this type are in Tokyo the Maranouchi Building, the Yushen Building, in Hongkong the Union Building, etc.

The great expansion of the towns, on the one hand, and the rapid development of the " city," on the other hand, made it necessary to provide rapid means of communication. Streets in the Far East are, in general, narrower and more congested than those of Europe or American towns, and therefore it is often advisable to sink the traffic below the ground (underground rapid railways), particularly as, owing to Chinese and Japanese labour being so cheap (see p. 30), the cost of the earthwork, which represents a high proportion of the total cost of the construction of underground railways, is not so high as in other parts of the world.

Also, railway communication between the suburbs and the central station, situated in the centre of the city, has been considerably improved in Tokyo.

As many of the large towns (Tokyo, Osaka, Yokohama, and, in a lesser degree, Shanghai and Canton) are intersected by a network of navigable canals, street communication is limited to certain main streets connecting the bridges, as, for instance, the Nihonbashi Dori and the Ginza in Tokyo), and accordingly the canals play an important part in the distribution of traffic.* The canals, particularly in port towns, play an important part in local goods traffic also (transport of goods from the Osaka factories to the ships lying at anchor in the ports).

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* In Europe, canals (grachts) have a similar effect on road traffic in Amsterdam and in the central districts of Hamburg.

After these general remarks concerning the circumstances influencing traffic in large cities of the Far East, we shall, in what follows, describe a number of means of communication existing in various Far Eastern cities.

## TOKYO AND YOKOHAMA

Although Tokyo and Yokohama are separate towns from the point of view of administration, they have become so closely connected with regard to communication and to their economic position, that it will be convenient to discuss them jointly with regard to certain points, particularly the question of rapid transit railways. It is probable that sooner or later these two cities will definitely be united, like New York and Brooklyn or Berlin and Charlottenburg.

When Tokyo was rebuilt after the earthquake, the main object was to bring the suburbs and the adjacent town of Yokohama as near as possible to the Central Railway Station of Tokyo, which, together with the streets behind it (Ginza, Nihonbashi Dori), is the centre of the city, by connecting them to that station by a system of branch and circular railways.

The length of the streets of Tokyo was, in 1929, 136,108 ken, whilst the surface of same amounted to 1,442,068 tshubos. Of the total length stated, a length of 81,752 ken was covered with asphalt and a length of 50,178 ken with stone.

The number of bridges across canals was, in 1924, 634, whilst in 1929 this figure declined to 628. The decline is due to the dismantling of the provisional bridges erected after the earthquake. The number of large steel bridges over the Sumidagawa was seven.

The majority of the bridges were built during the last seven years. (See "Statistical Abstract for Tokyo," 1929, The Tokyo Municipal Office, 1930.)

The overhead rapid district railway system of Tokyo greatly resembles that formed by the Stadtbahn and Hochbahn in Berlin. In Tokyo, as in Berlin, the main line of this system leads through the main railway station (Tokyo Central Station-Friedrichstrasse Bahnhof) and connects the more important railway stations (Ueno-Kanda-Simbashi-Shinagwa, and Schlesischer Bahnhof-Janowitzbrücke-Alexanderplatz-Börse-Lehrter Bahnhof-Bellevue-Zoologischer Garten respectively). Here, also, the rapid transit railway passes through the city, runs above ground all the way, and is operated by electricity in the same way as in Berlin.

It is the rapid district railway—on the track of which long-distance trains also run (as in Berlin)—which undertakes the suburban traffic as well. Thus, for instance, two tracks are provided between the main station of Yokohama and Tokyo Central Station, on which local express trains travelling at a speed of 70 kilometres per hour run at intervals of from four to ten minutes. (In Berlin there is a similar train service to Charlottenburg, Wannsee and Potsdam.)

The system of overhead district transit railways connecting the main railway stations consists of two circular lines (which remind one of the " petite ceinture " and " grande ceinture " of the Paris system).

These circular railways connect the suburbs with the central station.

The suburban traffic of the immediate neighbourhood of Tokyo is illustrated by the table published below, which shows how large a percentage of the total traffic of the high level railways of Tokyo (connecting and circular railway) it represents.

| Year. | 0 to 1 mile. Number of passengers. | Per cent. | Over 1 mile. Number of passengers. | Total number of passengers. | Proportion of distance traffic. | |
|---|---|---|---|---|---|---|
| | | | | | 1 to 2 miles. | 3 to 4 miles. |
| | | | | | Per cent. | Per cent. |
| 1923 | 117,799 | 8·86 | 1,212,396 | 1,330,195 | 24·75 | 18·58 |
| 1928 | 76,399 | 6·68 | 1,056,633 | 1,143,032 | 21·49 | 19·34 |

It is by means of the overhead railway system of Tokyo that Yokohama also has been connected up with the communication system of Tokyo, for frequent trains, covering the distance between the central stations of the two cities in thirty-five minutes (in New York, London and Chicago local rapid district trains often take double this time to cross the city [*]), make the two cities one from the point of view of communication policy. (The data are taken from the " Statistical Abstract for Tokyo," 1929, Tokyo Municipal Office, 1931.)

It is very difficult to obtain exact figures with regard to the passenger traffic between Tokyo and Yokohama, because it is practically impossible to distinguish between long-distance passenger traffic and local passenger traffic. For instance, Yokohama is the port of Tokyo, and the railway to the continent of Asia (the Fushan and Shimonoseki line) also includes the Tokaido line which, starting from Tokyo, passes through Yokohama. (See p. 65.) (The figures are taken from " Statistical Abstract for Tokyo," 1928, Tokyo Municipal Office, 1930.)

Of the means of urban traffic in Tokyo, it is the electric tramway which to-day still plays the most important part. The rolling stock of the electric tramway is quite up to date : a large proportion of the cars are of the bogie type. However, in Tokyo, as in other cities, the electric tramways are, particularly in the central parts of the town, gradually being replaced by underground electric railways and by motor buses.

The traffic figures of the electric tramway of Tokyo are as follows :

| Year. | Length of line. | Number of cars. | Number of employees. | Electric energy used. | Number of passengers transported. | Receipts. |
|---|---|---|---|---|---|---|
| | Km. | | | Kw. hours | | Yen. |
| 1924–25 | 306·6 | 1,705 | 8,879 | 78,918,947 | 438,358,247 | 31,519,990 |
| 1925–26 | 308·9 | 1,689 | 8,488 | 76,615,492 | 461,345,937 | 30,560,838 |
| 1926–27 | 311·2 | 1,593 | 8,231 | 75,417,495 | 435,382,640 | 28,868,781 |
| 1927–28 | 313·6 | 1,612 | 7,923 | 76,512,248 | 433,424,397 | 28,673,612 |
| 1928–29 | 320·8 | 1,630 | 7,893 | 76,846,313 | 435,062,305 | 28,778,398 |
| 1929–30 | 323·0 | 1,632 | 7,902 | 82,112,435 | 403,206,622 | 26,664,002 |

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[*] As, for instance, in New York, between Battery and Bronx.

The number of car-kilometres covered declined from 103,848,822 in the year 1924–25 to 102,669,500 in the year 1928–29. The reason is that owing to less passenger traffic, in consequence of the development of motor buses and of underground electric railways, fewer tramcars were run.

The Electric Railway Company of Tokyo is fighting against the effects of the decline of traffic by rationalising their administration. (Diminution of the number of employees, etc.)

Motor bus traffic in Tokyo is catered for by two companies: the Municipal Motor Bus Company and the Tokyo Motorbus Traffic Company.

The traffic figures of these two companies are as follows:

| | Year. | Length of lines. | Number of motor buses. | Mileage covered. | Number of passengers transported. | Receipts. Yen. |
|---|---|---|---|---|---|---|
| Municipal Motor Bus Company of Tokyo | 1924 | 87 | 302 | 7,978,051 | 16,461,710 | 1,719,121 |
| | 1925 | 84 | 342 | 6,204,960 | 34,834,293 | 2,390,387 |
| | 1926 | 48 | 344 | 7,071,619 | 40,508,578 | 2,681,609 |
| | 1927 | 48 | 381 | 7,761,323 | 45,545,155 | 3,038,651 |
| | 1928 | 61 | 572 | 9,165,151 | 55,286,707 | 3,704,729 |
| Tokyo Motorbus Traffic Company | 1925 | 19 | 232 | 5,499,265 | 39,243,963 | 2,666,768 |
| | 1926 | 24 | 245 | 6,237,586 | 31,242,894 | 2,886,044 |
| | 1927 | 27 | 288 | 6,211,517 | 42,858,035 | 2,826,728 |
| | 1928 | 29 | 311 | 6,026,288 | 45,452,374 | 2,953,587 |

It can be seen from the above table that in the years 1924 and 1925 the Municipal Motor Bus Company maintained motor bus services on lines of much greater total length than in the following years. The reason is that after the 1923 earthquake traffic was in many places maintained by means of motor buses pending the construction of the electric tramway tracks.

Most of the motor bus lines of Tokyo run from the central station towards the suburbs. The number of lines is over thirty.

In addition to regular motor bus services there are a number of so-called "business route" services, running from the city into various parts of the town at certain hours of the day. In 1929, 17,010,250 passengers were transported on lines having a total length of 96 miles by 192 motor buses. The receipts amounted to 1,232,323 yen.

The underground Electric Rapid District Railway of Tokyo owes its establishment to the 1923 earthquake. Whilst the construction of underground railways is, as a rule, very costly (the cost of construction of the Metropolitan Underground Railway of Paris was, on the average, £300,000, that of the U-Bahn of Berlin, £530,000 per kilometre), a large part of such cost representing expenditure for excavation work (removal of the pavement, work in connection with the demolishing of houses, boring of tunnels), it was, in the case of the Tokyo Underground Electric Rapid District Railway, possible to avoid the most expensive items of this work, namely, the boring of tunnels, as it was possible to lay the track of the Rapid District Railway running below the street level before constructing the streets themselves, prior to rebuilding the houses. Thus the first line was opened to traffic in the year 1924. Its service data are as follows:

| Daily average of cars running. | Number of passengers. | Number of passengers per car kilometre. | Year. | Length of system in kilometres. |
|---|---|---|---|---|
| 9 | 5,164,324 | 8.79 | 1924–25 | 3,911 |
| 12 | 5,655,252 | 7.70 | 1925–26 | 3,911 |
| 12 | 5,806,922 | 8.45 | 1926–27 | 3,911 |
| 13 | 6,248,787 | 8.37 | 1927–28 | 3,911 |
| 29 | 10,022,933 | 7.32 | 1928–29 | 7,641 |

The increase in the number of cars and passengers during the last years is attributable to a line newly opened. (The data are taken from "Statistical Abstract of Tokyo," 1931, Tokyo Municipal Office.)

As to the system of canals traversing Tokyo, it is not only important from the point of view of the food supply of the town (fishing boats and barges for the transport of vegetables), but also for the transport of certain classes of goods to the port of Yokohama (canals between Tokyo and Yokohama, coasting trade in the Tokyo Bay). On the Sumidagawa and on the 63 main canals there were plying in 1928, 2,839 junks, 278 steamships, 27 warehouse lighter ships, 54 ferry-boats and about 2,300 units of other kinds of craft. (Terry, " The Japanese Empire," Houghton Miffling Co., Boston and New York, 1928.)

## OSAKA

Osaka is one of those Japanese cities whose development has been very rapid. Its thoroughfares are hardly able to cope with the increased volume of traffic, and owing to this a very large amount of road construction is going on in the town. At present a system of main routes of a total length of 4,478 metres, consisting of radial and ring roads, is being constructed. The average width of these roads is 43·6 metres. (See " Statistical Abstract for Osaka," 1928, The Osaka Municipal Office.)

The distribution and length of streets in 1927 were as follows :

| Total. | | Roadways. | | Footpaths. | | Other streets. | |
|---|---|---|---|---|---|---|---|
| Length. | Area. | Length. | Area. | Length. | Area. | Length. | Area. |
| 120,052 | 389,065 | 33,593 | 149,021 | 20,398 | 81,336 | 66,059 | 158,707 |

The length of streets is stated in ken (1 ken = 1·818 metres), whilst their area is stated in tshubo (1 tshubo = 3·306 sq. metres).

The table on page 269 gives the main data of the Osaka Electric Railway Company.

Although the development of the Osaka Electric Railways during the ten-year period between 1918 and 1928 was really extraordinary, particularly as far as the increase of the length of track is concerned, it is, nevertheless, remarkable that the number of passengers transported is less than might be expected in a town of so large a population. In 1928 the number of passengers transported by the electric tramway was 305,625,000, whilst in Budapest, the population of which is only slightly more than half that of Osaka, the number of passengers carried by the electric tramways was 274,330,000. (See "Communication in Large Cities," by Professor Zelovich, published in *Városi Szemle* (*Municipal Review*), seventeenth yearly volume.) It is clear, therefore, that the density of electric tramway traffic is not very high in Osaka.

| Year. | Number of passengers. | Receipts from the transport of passengers. | Number of cars. | Length of track |
|---|---|---|---|---|
| | | Yen. | | Kilometres. |
| 1928–29 | 305,625,000 | 17,250,000 | 739 | 98.77 |
| 1927–28 | 303,809,000 | 17,183,000 | 893 | 95.22 |
| 1926–27 | 309,137,000 | 17,530,000 | 932 | 90.64 |
| 1920–21 | 254,375,000 | 12,441,000 | 554 | 67.24 |
| 1917–18 | 179,830,000 | 5,816,000 | 550 | 55.61 |

The relatively low number of electric tramcars in Osaka lead us to suppose that the cars are rather overcrowded, but it should not be forgotten that the electric tramcars of Osaka have a higher seating capacity than those of either Budapest, Paris or Vienna. This fact, on the other hand, tends to diminish the frequency of traffic and to cause uneven distribution or even insufficiency of the means of transport at certain periods of the day (in the so-called rush hours).

At Osaka, the mouth of the Yodogawa forms numerous canals, some of which permit entrance even to sea-going ships of 1,000 tons. The Japanese ships engaged in the coasting trade on the Japanese Inner Sea are able to penetrate by means of the canals to any point of the town and load or unload cargo there. Since 1927 there is also a service of motor ships on the canals. (" A Glimpse of Osaka," 1930, the Osaka Municipal Office.)

## HONGKONG

The geographical position of Hongkong leaves its mark on the whole traffic of this city. Hongkong is situated at the foot of a rather steep group of hills, and thus it is only the narrow strip of coast between the water and the mountains which is available for the further growth of the town. (Endeavours are being made to reclaim a certain area of land from the sea. This is the so-called Eastern Praya Extension.)

The fact that it is only in this single direction that the town is able to grow has, in addition to influencing architecture—leading, in consequence of the high prices of building land, to the construction of buildings of great height (eight to ten stories)—had the result of making the length of the town, along the sea-coast extend as far as six miles, whilst its width does not reach even a maximum of one mile. Thus the axis of urban communication is a longitudinal one, parallel to the sea-coast.*

Peddar Street may be considered as the centre of the city of Hongkong. The larger business houses, banks and the main post office are situated in this street and its side streets.

Owing to this development of Hongkong in one direction, the Des Vœux Road, which crosses Peddar Street at right angles and runs parallel to the quay for a length of about three miles, has become the main artery of communication. It is along this road that a trolley-bus line runs. Trolley-buses form the only rational means of urban communications in Hongkong, since they are trackless and are capable of passing rapidly through the narrow streets burdened with a large amount of traffic.†

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* In these remarks we do not take into account Kowloon, the city situated opposite to Hongkong on the other side of the bay.

† Acting on the example set by Birmingham, nearly all large cities of Eastern Asia, for instance, Shanghai and Singapore, have introduced trolley-bus services, as at least a part of their street railway service ,seeing that in the local

In addition, the fact that no permanent way is required, renders the first cost of establishing a trolley-bus service incomparably lower than that of establishing an electric tramway. The operation of trolley-buses is particularly advisable in cities like Hongkong, where, as we shall see below, motor cars are spreading rapidly and steadily appropriating the road transport, and where it is therefore important that the means of communication established should require as little initial cost as possible, so that this may be repaid before operation becomes possible at a loss only, owing to the strong competition of motor traffic. The length of the line served by trolley-buses is 9·25 miles.

The town of Hongkong, being a British colony, is politically, as well as financially, independent of China. The rapid growth of the town, the rapid increase of the numbers of its European population and the fact of its being, as mentioned above, politically and financially independent of China, have enabled Hongkong to develop a system of streets surpassing technically those of many European cities.

Indirectly, these facts have also led to the development of motoring. This development has been rendered more active by the fact that the island of Hongkong is beginning, owing to the increased number of persons settling in it (particularly the richer part of the population of Hongkong are constructing bungalows and summer residency on the island), to be transformed into an independent city. In consequence of such increased settlement, its network of roads outside the urban territory is also continually extending.

The latest data with regard to motors in Hongkong are as follows: In 1933 a total number of 3,470 motor vehicles were in use in Hongkong; of these over 300 were motor lorries and 334 motor cycles. In 1930 the number of motor vehicles was 2,356.

We must here mention also the urban vehicle peculiar to the Far East, the jin-rickshaw, which still possesses

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circumstances ruling there (narrow streets carrying a large traffic trolley-buses represent the most suitable means of communication.

considerable importance in certain towns (particularly in Shanghai, Nanking, Peking and Kobe) in which the network of streets, in the European sense of the word, is of comparatively small extent.*

The advantages of the jin-rickshaw may be summed under two headings :

1. Low cost. The cost of construction of a two-wheeled jin-rickshaw is little more than 100 yen. Its cost of maintenance is practically nil. The fare charged varies in Japan between 10 and 15 sen, in China between 10 and 20 Mexican cents per mile. As a jin-rickshaw covers on an average about 10 miles a day, the daily receipts amount in Japan to about 1 yen 20 sen. Accordingly a jun-rickshaw will pay for itself in about three or four months, without requiring any repairs up to that time.

2. Owing to its small size, the jin-rickshaw represents in some Japanese and Chinese towns the only vehicle by which it is possible to approach all parts of the town, seeing that in the narrow streets there is no room for either motor cars or electric tramway cars. The jin-rickshaw, therefore, still represents a very important means of communication in Japanese towns like Kobe and Osaka, and among Chinese towns, in Shanghai, Peking and the large inland towns.† This is proved by the fact that recently the police of Kobe have, acting on the example of those in Shanghai, introduced number plates for rickshaws.

Nevertheless, the number of rickshaws is steadily diminishing, as wider streets and squares are being constructed in Far Eastern towns, their place being taken by motor cars and electric tramways, as, for instance, in Tokyo, Yokohama and other towns rebuilt after the earthquake. In 1929–30 the total number of rickshaws in Japan was only 33,045.

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* The jin-rickshaw is a two-wheeled carriage for one or two persons, which is drawn by human agency.

† Before the earthquake, when Tokyo did not yet possess any modern avenues and any modern street system, the number of rickshaws in Tokyo was as high as 50,000. In Osaka 6,325 rickshaws were operating in 1917, whilst in 1925 their number had already declined to 2,580. In Tokyo their number is declining rapidly. In 1925 it was still 8,112, in 1929 it had already declined to 4,559.

The most characteristic urban water vehicle to be found in Japanese and Chinese towns (and also in other large towns of Asia, for instance, in Singapore) is the so-called *shampan*.

These vehicles are really large boats. In some big port cities, particularly in those cities which are traversed by a large number of shipping canals, their number is very high. There was a time when in Shanghai their number was estimated as exceeding 10,000. To-day they still exist mainly in Shanghai, Hankow, Canton, Hongkong, Osaka and Tokyo. Shampans differ from other vehicles mainly owing to the fact that they serve as a permanent dwelling for their owners.* The shampans are engaged in passenger and goods traffic in the ports, chiefly between the ships at anchor and the shore, which traffic is handled at very low prices, fixed by agreement in each case. In recent times they have been subjected to very strict control by the police of some ports (as of Shanghai) with a view to public safety, as they have played an important part in the illegal trade in narcotics, particularly opium. Their activity makes them dangerous rivals of the various tug companies operating in the ports engaged in the transport of goods between ships and port warehouses.

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* In Canton alone, the number of people residing on shampans is 120,000. (See Japanese Government Railways, "Guide to China," p. 390.)

# CHAPTER XIV

## MEANS OF COMMUNICATION IN SIAM

IN the present chapter we will supplement the picture drawn of the means of communication in Japan and China by saying a few words about the present state of communications in Siam. The traffic and foreign trade of Siam passes chiefly through Bangkok, which is the most important railway junction of the country as well as its most important port. A great part of the foreign trade (in 1928–29 imports amounted to £17,220,000 and exports to £22,952,000) comes to Bangkok from, or is directed from Bangkok to, Singapore or Hongkong.

(*a*) Siamese Railways. In Siam the majority of railways are run by the State. The length of lines of the State Railways amounted in 1931 to 2,922 kilometres, whilst the length of railway lines managed by private companies was 110 kilometres. The total length of railway lines was accordingly about 3,000 kilometres, *i.e.*, 1 kilometre for every 3,100 souls of the population. (The population of Siam was in 1930 about 9,300,000.) Most of the railway lines are single-track. Private companies handle only the traffic between Bangkok and its immediate surroundings, whilst over large distances the State Railways are predominant. This is particularly important with regard to goods traffic, as the country possesses practically no road system, and goods traffic is therefore, apart from river traffic, compelled to make use of the railways.* Invested capital, 186 million Bahts.

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* The more important railway lines are the following : Bangkok–Paknam, Bangkok–Sungei–Golok (with a junction line to the Malay Railways). Another junction line runs from Bangkok to Pedang Besar (joining on to the line of the Malay Railways coming from Penang and Singapore). Bangkok–Korat line. Branchlines starting from Korat are now under construction, one of these, the Korat–Ubol line, was opened to traffic in 1929. The railways are directly controlled by the Ministry of Communications.

The railways are connected with the Malayan States, and there is thus a direct railway connection between Singapore and Bangkok, which is, however, of real importance for passenger traffic only, as all the goods go by water. At the end of 1930, 216 kilometres of new railway lines were under construction.

The following table gives the business results for the fiscal year 1930–31 of the Siamese State Railway (in Siamese Bahts):

| Working receipts. | Working expenses. | Surplus. | Tons of goods carried. | Passengers carried. |
|---|---|---|---|---|
| 16,182,726 | 8,731,004 | 7,451,722 | 1,299,852 | 5,285,000 |

The interest charge on invested capital was, in the fiscal year 1930–31, 3·51 per cent. Receipts from the transport of passengers amounted to 46·62 million Bahts; those from the transport of goods to 55·25 million Bahts; receipts from other sources were 2·13 million Bahts. Of the expenditure, 27·05 million Bahts were connected with maintenance, 4·43 million Bahts with management; whilst the amount expended for new construction was 19·38 million Bahts. Locomotives absorbed 34·6 million Bahts. The number of employees was 16,866; the number of locomotives 173, that of passenger cars 317, and that of freight cars 3,228.

The importance of the Siamese railways consists in the fact that goods are transported by their means from the inner parts of the country, into which there is no road system and no system of waterways, to the mouth of the River Menam, *i.e.*, to Bangkok, which, being practically the only port of Siam, handles the overwhelming part of the traffic. The railway system has, in fact, been constructed with this main purpose in view.†

(*b*) Siamese Maritime Shipping. The only Siamese maritime shipping company is the Siam Steam Navigation Company Ltd., a company belonging to the concern of the East Asiatic Company Ltd. Its capital stock is one million ticals (1 tical is equal to about $0·37). In this company, as is largely the case in Siam, it is chiefly Danish capital which is invested. The ten ships of this company, representing (1928) a total tonnage of 8,091 tons, are mainly engaged in trade between Singapore and Bangkok. In 1931 only one Siamese vessel passed through the Suez Canal. (See the 1931 publication of the Compagnie Universelle du Canal Maritime du Suez.) Passenger and goods traffic between Singapore and Siam is, in addition to the Siamese company named, chiefly handled by companies belonging to the P. & O. concern (see p. 208), for instance, by the British India Steam Navigation Company Ltd.

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† In Northern Siam, in the frontier regions the unregulated wanderer's and hawking trade is also rather important.

The most important port of Siam is Bangkok, the capital itself; the traffic of this port consisted in 1910–11 of 925 ships which left port; these ships represented a total tonnage of 865,067 gross register tons. (At that time there figured in this traffic ships sailing under the German flag to the extent of 43·6 per cent., ships sailing under the Norwegian flag to the extent of 28·7 per cent., whilst ships sailing under the British flag only represented 10 per cent. of the total. In 1930 the traffic of the port of Bangkok amounted, according to the 1931 issue of the "Statistisches Jahrbuch für das Deutsche Reich," to 1,141,000 registered tons, of which ships sailing under the Siamese flag represented 94,000 tons only.

The port of Bangkok is formed by the bed of the River Menam; it is only at high tide that sea-going ships are able to pass the sandbank situated at the river mouth.

(*c*) Roads and Motor Traffic. The road system of Siam is in a very backward stage of development. In 1926–27 the length of State roads was 1,272 miles. It is only between Bangkok and Paknam that a good road exists, while the roads leading to the other parts of the country are only pathways. Accordingly, the number of motor vehicles is quite insignificant. (On January 1st, 1930, the number of passenger motor cars was, according to the " Statistisches Jahrbuch für das Deutsche Reich," 4,300, whilst that of motor lorries was 3,250. The total number of motor vehicles was one per 1,524 of the population.)

(*d*) Aerial Traffic. Royal Siam Air Service Company maintains mail service from Korat (the main air port of Siam) to various distant points, over a total length of lines of 512 miles. In 1929 the company possessed one airplane of 300 h.p. of the Breguet type.

(*e*) Post, Telegraphs, Wireless Telegraphs and Telephones. In 1930–31 the number of post offices in the country was 798. In 1927–28 the inland postal traffic handled amounted to 4,241,000 letters, 1,963,000 postcards and about three million other consignments. The data of the foreign traffic were as follows : 1,690,000 letters, 87,000 postcards, 1,400,000 other consignments. The number of telegraph offices was, in 1930–31, 718, the total length of telegraph lines 4,905 miles. The number of telegrams forwarded was about 815,000. The number of telephones in the country was 2,450, that of telephone subscribers 2,191. Three wireless telegraph stations are operating, two of which are under the control of the maritime authorities, whilst one is controlled by the post office.

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# PART III

# MEANS OF COMMUNICATION BETWEEN THE FAR EAST AND THE OTHER PARTS OF THE WORLD

## CHAPTER I

### SHIPPING LINES BETWEEN THE FAR EAST AND AMERICA

OWING to the greatly increased importance of the Pacific Ocean as a route of world communication during the last two centuries, the importance of shipping between the Far East and the American continent has rapidly increased in recent times.

In 1911–12 A. Oppel estimated the value of world trade on the three great oceans of the world at the following figures: Atlantic Ocean, 140,000 million marks; Pacific Ocean, 14,000 million marks; and Indian Ocean, 12,000 million marks. (See A. Oppel, " Der Welthandel," Frankfurt a/M, 1914.)

According to these figures the volume of trade carried on the Pacific Ocean was only 10 per cent. of that carried on the Atlantic Ocean.

After the War these pre-war figures suffered a very substantial change in favour of the Pacific Ocean. By the opening of the Panama Canal practically the whole trade directed from the east coast of North and South America to the Far East has been deflected from the Atlantic to the Pacific Ocean. (Ships sailing from New York to Japan have no longer to pass through the Magellan Straits.)

According to the " Statesman's Year-book " of 1928, the trade of Japan and China alone with the U.S.A.

amounted to 9,800 million marks. This figure does not include either the trade with South America or the trade between America and British India, the Malay States and the Philippine Islands. (The trade between Australia and America amounted to 880 millions marks.*)

In Chapter II of Part I the trade of the U.S.A. with Europe and with Asia was discussed in detail. The ratio between these two branches of trade represents at the same time also the ratio between Trans-Atlantic and Trans-Pacific traffic.

We found that, since the War, Trans-Pacific traffic has been increasing at a more rapid rate than Trans-Atlantic traffic. (Expansion of the market found by the products of American industry in the Far East.) The investigations of Wallace M. Alexander (see p. 39) entirely confirm this. The falling off in the value of trade during the last year is due to the fall in prices of world commodities, and is not of such magnitude as to permit us to conclude that any falling off in quantities has taken place. On the contrary, quantities have increased on many routes.

All this, in contradiction to the views of some German authors, confirms the views proclaimed by American authors and institutes (Institute of Pacific Relations), according to which the economic centre of gravity of the world has shifted to the shores of the Pacific Ocean.

We consider this point to be of such importance that we feel impelled to set down here some further facts and opinions confirming it.

John M. Imrie, the chairman of the Chamber of Commerce of Canada, makes, in his article "Trade Prospects Across the Pacific" (the *Japan Times*, Overseas Weekly Edition, March 29th, 1932), some very interesting statements with regard to the present stage and the probable further development of trade relations between Canada and the Far East.

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* By way of comparison, we must mention that in 1908 the trade of Japan and China with the U.S.A. amounted to about 725 million marks. The trade between Australia and U.S.A. amounted, in 1908, to about 150 million marks. See the "Statesman's Year-book," for 1909.)

He states that at present Japan is third in order among the customers of Canada. (Before the War the value of goods purchased from Canada by Japan was only $1,500,000, whilst to-day it amounts already to $42,000,000.) Japan is compelled to purchase abroad 100 per cent. of the nickel and asbestos and 50 per cent. of the graphite and zinc she requires. In 1929 the value of mineral products supplied to Japan by Canada amounted to about 10 million American dollars.

China is eighth in order among the purchasers of Canadian goods. In 1922 the value of Canadian goods exported to China was only three million dollars, whilst in 1929 it already amounted to 24 million dollars.

The two main points which impressed the Canadian Trade Commission on its journey to China were that China is able to buy a much greater quantity of goods than she does at the present moment, and that the means of communication in China must first be brought to a higher level to enable Chinese foreign trade to be put on a new basis, in which case Trans-Pacific traffic will increase at a still more rapid rate.

All this illustrates the rapid increase of trade on the Pacific Ocean.

It is also a fact that, whilst goods traffic between America and Europe across the Atlantic Ocean has barely doubled from 1908 to 1928, the trade of the U.S.A. during the same period increased to six and half times its original value.*

The considerable traffic directed from the Pacific ports to the Chinese ports has been purposely left out of our calculations.

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* The trade of the U.S.A. with Europe in the years 1907–08 amounted to 1,892,614,000 dollars, whilst in 1928–29 it amounted to 3,702,456,000 dollars. As against this, the trade of the U.S.A. with Asia amounted, in 1907–08, to 282,951,000 dollars, whilst to-day it has already reached 1,910,000,000 dollars. In 1930–31 the trade of the U.S.A. with Europe declined to 2,241,885,000 dollars, whilst the trade of the U.S.A. with Asia declined to 1,070,160,000 dollars.

The data for 1931 temporarily raised the figure of traffic on the Atlantic Ocean. The reason may be found in the protective tariff which came into force in Great Britain on March 1st, 1932, for American manufacturers tried to place their large stocks in Great Britain before the tariff came into force, as a consequence of this Trans-Atlantic traffic increased up to the first months of 1932.

We therefore, on the basis of what has been said above, believe that the opinion put forward by some German authors (particularly by Dr. A. Grabowsky) that the Pacific Ocean will not be a serious rival of the Atlantic Ocean is unjustified.

The most important reason for the increase of traffic on the Pacific Ocean is to be found in the export activity displayed by America during and after the War. This has been directed in a higher measure than before to the Far Eastern markets, from which some of the European Powers taking part in the War (as Austria, Hungary, Germany) were locked out completely owing to the blocking of roads, while other Powers (Great Britain, France) had to use their products, in the first place, to satisfy their own requirements. The export activity of some of the neutral States (Holland, Scandinavian countries) also declined greatly owing to submarine warfare.

Another reason for the increase of traffic on the Pacific Ocean during the War is that Russia was unable to effect supplies by any other route than over the Pacific Ocean, because the Baltic and North Seas, as well as the Mediterranean Sea and the Atlantic Ocean, were the scenes of the most active naval warfare (sea mines and submarines).*

Interesting data are obtained by comparing the traffic handled by some of the most important Pacific and Atlantic ports at the same time. (The data are taken partly from the " Encyclopædia Britannica," 11th Edition, and partly from the data found in the " Hungarian

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* Data with regard to the supply of raw materials for Russia during the War can be found in A. J. Brown's book, " Japan's Aufstieg zur Weltmacht," Orell Füssli, Zurich, p. 138.

Encyclopædia of Political Economy," and supplied by the Budapest Consulate of the U.S.A.

| Atlantic Ports. | | | Pacific Ports | | |
|---|---|---|---|---|---|
| Name of port. | Traffic in ship tons. | Year | Year. | Traffic in ship tons. | Name of port. |
| New York . | 21,850,000 | 1907 | 1906 | 3,385,000 | Kobe. |
| New York . | 41,900,000 | 1927 | 1924 | 24,200,000 | Kobe. |
| Hamburg . | 26,370,000 | 1911 | 1909 | 9,933,000 | San Francisco. |
| Hamburg . | 37,600,000 | 1927 | 1926 | 4,500,000 | San Francisco. |
| London . . | 18,800,000 | 1905 | 1909 | 5,000,000 | Seattle (approx.). |
| London . . | 38,700,000 | 1927 | 1927 | 8,545,000 | Seattle. |
| Rotterdam . | 10,100,000 | 1907 | 1907 | 23,031,000 | Hongkong. |
| Rotterdam . | 42,900,000 | 1927 | 1927 | 36,800,000 | Hongkong. |

It is seen from this schedule that the Pacific ports have been developing at least as rapidly as the ports playing a part in Atlantic traffic, whilst at the same time it must be remembered that the increase in the traffic handled by the port of New York, for instance, is partly due to the opening of the Panama Canal.

Interesting data may be found with regard to the development of the shipping traffic on the Pacific Ocean and to the competition between ships of different nationalities in the work of Theodor Suranyi-Unger ("Der Wirtschaftskampf um den Stillen Ozean," *Weltwirtschaftliches Archiv*, Volume 31, Fascicle 1).

One of the most striking facts is the relatively large proportion acquired by Japanese shipping companies of the total maritime trade of the U.S.A. During the four years preceding the War only 0·9 per cent. of the overseas trade of the U.S.A. was carried by Japanese ships, namely, about 600,000 net registered tons out of the total of 70 million tons. In 1927 this proportion had already risen to 4·2 per cent. (about five million registered tons out of total of 119 million tons).

As regards value, Japan holds the second place, immediately after Great Britain, in the traffic handled by ships, other than North American, of the total overseas trade of the U.S.A. (In 1927 this traffic handled by Japanese ships amounted to 549 million U.S.A. dollars.)

According to the data contained in the " Japan Year-book " and the " Commerce Year-book," Japanese ships in 1927 brought into Japanese ports goods of 32·7 million net registered tons, whilst the cargo brought by American ships was of 3·5 million net registered tons. On the other hand, the quantity of goods brought into American ports by American ships was 22 million registered tons, in addition to which Japanese ships brought into American ports goods amounting to 2·4 million tons.

Whilst Japanese and American shipping is making rapid progress on the Pacific Ocean, the part played on this ocean by British shipping shows a steady falling off.

Contrary to what has been the case in the Atlantic Ocean, the competition of shipping companies in the traffic between the Far East and America, *i.e.*, in Trans-Pacific traffic, has not led to the establishment of any cartels, pools or conventions.

The reason is no doubt that each of the shipping companies is operating with favourable results and that Trans-Pacific traffic is not affected by the economic depression in the same degree in which the traffic between America and Europe is affected.

In Trans-Pacific traffic merchants and passengers favour ships of their own nationality much more than is the case in Trans-Atlantic traffic.

At present Trans-Pacific traffic is worked by five companies on three main routes, namely, the Japanese Nippon Yushen Kaisha is maintaining fortnightly sailings between Hongkong-Shanghai-Yokohama-Puget Sound (Victoria, Vancouver, Seattle); also fortnightly sailings between Hongkong - Shanghai - Kobe-Yokohama - Honolulu - San Francisco-Los Angeles, and monthly sailings between Hongkong-Yokohama-San Francisco-Manzanillo-Callao (Iquique)-Valparaiso.

The Japanese Osaka Soshen Kaisha has fortnightly sailings between Seattle-Victoria-Yokohama-Kobe.

The Canadian Pacific Company (British) has fortnightly sailings between Vancouver-Victoria-Yokohama-Kobe-Shanghai-Hongkong.

The American Mail Line (U.S.A.) has fortnightly sailings between Seattle-Victoria-Yokohama-Kobe-Shanghai-Hongkong and Manilla.

The Dollar Line (U.S.A.) maintains fortnightly sailings between San Francisco-Honolulu-Yokohama-Kobe-Shanghai-Hongkong and Manilla.

The shipping companies with regular sailings between the eastern shores of the Pacific Ocean and Japanese and Chinese ports were in 1930:

| | Tons |
|---|---|
| Puget Sound Line of the Nippon Yushen Kaisha . . . . . . . . | 58,410 |
| San Francisco Line of the Nippon Yushen Kaisha . . . . . . . . | 93,100 |
| Chile Line of the Nippon Yushen Kaisha . | 45,405 |
| Puget Sound Line of the Osaka Soshen Kaisha | 42,835 |
| Total of Japanese ships . . . | 239,750 |
| Canadian Pacific Company . . . . | 58, 709 |
| American Main Line (Puget Sound Line) . | 127,287 |
| Dollar Steamship Line (San Francisco Line) . | 127,107 |
| Total . . . . . . . | 552,853 |

As appears from this table, about 43·4 per cent. of the line ships plying between America and the Far East are sailing under the Japanese flag.

The tonnage of all the regular line ships amounts to approximately 67·6 per cent. of the total tonnage (estimated by M. Arikawa at 750,000 tons) of all the ships plying between the western coast of North America and the Far East. (In making this calculation the Chile line of the N.Y.K. has, of course, been left out of account.)

It appears from the above that the tonnage of ships not sailing according to fixed schedules is rather important here.

The great prosperity of tramp and charter shipping in the Pacific Ocean is due to two important groups of reasons.*

One of these reasons is the relatively large area of the Pacific Ocean, owing to which consuming territories are situated at relatively large distances from each other, whilst many of them are not so important as to make the maintenance of regular or at least of frequent regular sailings to them profitable.

Accordingly, it is the Pacific Ocean which forms one of the most important fields for tramp shipping, particularly as a considerable part of the tramp fleet of the world sails under the Japanese and the American flags.

Between America and the Japanese and Chinese ports certain raw materials and other products are shipped in great quantities in both directions (raw silk, tea, timber, rice, oil, mineral products, cotton and textile goods), and owing to this the ships find full employment and are not obliged to take such roundabout routes as they are compelled to take in those parts of the world where the flow of goods is practically in one direction only.†

Of the three main routes mentioned on p. 283, one of the most important is the route from Puget Sound to the Far East, connecting the northern group of the Pacific ports of the U.S.A. (Seattle, Tacoma), through the Canadian Pacific ports (Vancouver, B.C., Victoria), with the Far East.

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* The importance of charter shipping in the Pacific Ocean is also illustrated by the fact that the companies carrying on line shipping also possess a considerable fleet of cargo ships. Thus the Dollar Line possesses, in addition to the passenger ships mentioned above, cargo ships representing a tonnage of 43,950 tons, whilst the American Mail Line possesses cargo ships of a total tonnage of 64,200 tons. Besides, the ships of the Osaka Soshen Kaisha are, as mentioned before, without exception, of the semi-cargo type, and are therefore also very suitable for charter work.

† For instance, a ship sailing from San Diego to Japan with a cargo of cotton may take on a cargo of raw silk in Yokohama and immediately return on the same route with this cargo without having to insert a third route in its programme, in order to utilise its tonnage by the shipment of goods, as has to be done, for instance, in the European tramp shipping triangle. (See p. 152.) It is also due to the large shipments of raw materials on the routes discussed that the cargo ships owned by the line shipping companies are in general more fully employed than in other places.

The ports on the Puget Sound have attained increased importance in post-war years owing to the fact that the Pacific railways, of which the Canadian Pacific and the Northern Pacific are the most important, run to these ports. The Puget Sound line is the shortest shipping line between North America and Japan (4,270 nautical miles). The tonnage of the ships with regular schedule sailings between the Puget Sound ports and the Far East amounted in 1930 to 287,441 tons, whereas in the San Francisco (California) line, formerly preferred (see below), the tonnage of ships sailing to regular schedules amounted in 1930 to 220,207 tons only. It appears, therefore, that of the ships representing a total tonnage of 507,000 tons plying between North America and the Far East, about 56·6 per cent. sail from the Puget Sound and only 43·4 per cent. from San Francisco. The balance is decided in favour of the former group of ports by the Canadian traffic with the Far East, which will, under all circumstances, go through Vancouver and which is rather considerable.*

The passenger traffic through Puget Sound is also very important, partly because it is this line which offers the shortest connection and partly because a great part of the passenger traffic coming from Europe also passes through the Puget Sound, as well as about 80 per cent. of the mail traffic between North America and the Far East, which naturally follows the shortest route. The other line from San Francisco *viâ* Honolulu to Yokohama is considerably longer (Seattle-Yokohama, 4,270 nautical miles, San Francisco-Yokohama, 6,387 nautical miles).

With regard to passenger traffic, however, the last-named line is at least as popular as the former, because, whilst the Puget Sound line leads through rather cold northern seas, where fogs and bad weather are frequent, the San Francisco line leads over warmer and more sunny southern seas.

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* It should be remembered that 80 per cent. of the raw silk trade from the Far East to Northern America also passes through the Puget Sound.

Accordingly, the passenger tariffs of the San Francisco line are slightly higher.

| Company. | *Viâ* Puget Sound. First class. |  | *Viâ* California. First class. |  |
|---|---|---|---|---|
|  | "a." | "b." | "a." | "b." |
|  | Dollars. | Dollars. | Dollars. | Dollars. |
| Nippon-Yushen Kaisha . | 250 | 230 | 330 | 300 |
| Dollar, or Mail Line . | 400 | 300 | — | — |

The importance of the Californian (San Francisco) line with regard to goods traffic has been considerably lessened by the opening of the Panama Canal. It is now only the expensive kinds of industrial products which pass through San Francisco, whilst raw materials are shipped through the Panama Canal.

It should be mentioned that the port of San Diego (Los Angeles), which is likely to become one of the most important ports of California, is now under construction. It is intended to make this the principal oil port of the U.S.A. on the Pacific coast, but will also be suitable for handling all kinds of other merchandise.

The opening of the Panama Canal in 1914 created new shipping routes, namely, those between the Far East and the east coast of North and South America.*

These routes deal with the traffic between the Far

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* The scope and purpose of the present work do not permit us to discuss the effects of the Panama Canal, apart from the creation of the new shipping routes mentioned above, in so detailed a manner as was done in Chapter III of the present Part with regard to the economic importance of the Suez Canal. Nevertheless, it is necessary to say a few words about the general economic function of the Panama Canal and to illustrate its development by a few data.

In addition to diminishing the distance between the east coast of America on the one hand, and the west coast of America as well as the east coast of Asia on the other hand, the chief effect of the Panama Canal was to bring the western countries of South America (Chile, Peru, Bolivia and Equador) into closer economic unity with the rest of the American continent. The countries referred to, being situated on the western slopes of the Andes, were cut off by this great range of mountains from the plains of Eastern South America which form the economically more attractive part of the continent. They were also cut off from the most economically important regions of the U.S.A., namely, from the industrial and commercial regions of the east coast, as it was only

Eastern ports (chiefly Shanghai, Dairen, Yokohama and Kobe) and the southern ports of the U.S.A. (New Orleans, Galveston), as well as the eastern ports of the U.S.A. (New York, Boston, Baltimore), and between the Far Eastern ports named and the La Plata ports (Montevideo, Buenos Aires) as well as the ports of Brazil.

It was particularly during the years 1923 to 1926 that these shipping routes became very important, as they were used to transport a great part of the materials required for rebuilding those regions of Japan devastated by the earthquake.

M. Arikawa estimates the tonnage of ships plying between the Far East and the eastern coast of the U.S.A. at about 800,000 tons, of which Japanese ships represent about 300,000 tons, *i.e.*, 37·5 per cent. The traffic of the line in 1931–32 dropped by 17 per cent.

As to the tonnage of the ships plying between the Far East and the east coast of South America, no data are available, so that we are unable properly to judge the

through the Magellan Straits that it was possible for them to reach these regions by water. The Western South America countries, facing the open Pacific Ocean, would sooner or later have become economically oriented in an increased degree towards Asia and Australia, and although they would probably never have fallen entirely into the sphere of attraction of these continents, they would, at any rate, never have formed such an organic part of the American economic unity (which is becoming more and more an item of world programme, whether under the slogan of Pan-America or under that of Ibero-America) as they do now.

By lessening the distance between the eastern industrial regions of North America and the western regions of South America, where many important raw materials (saltpetre, rubber, sugar and oil) are produced, the Panama Canal has been of great assistance to the Pan-American idea which proclaims the economic unity of the two Americas, the various parts of which supplement each other's deficiencies. The greatest world importance of the Panama Canal consists in this fact.

The strategical view, so frequently mentioned, which compares the Panama Canal with the Kaiser Wilhelm Kanal in Germany, and considers the construction of the canal as having been a necessity in order to enable the U.S.A navy to concentrate on both oceans, is only of secondary importance, although it is beyond doubt that the Panama Canal enables the Pacific and the Atlantic Fleet of the U.S. Navy to unite very quickly, and owing to this the striking power of the U.S. Navy has certainly considerably increased. Certain measures taken by America, for instance, the creation of a Panama zone in which an American garrison is stationed, and the transformation of the Hawaii Island into a naval base, seem to support the view referred to.

importance of this route which, however, is certainly less important than the one above mentioned.

The most important traffic figures of the Panama Canal are as follows:

| Year. | Shipping traffic. | Quantity of goods transported. | Receipts. |
|---|---|---|---|
| | Ships. | Tons. | U.S.A. Dollars. |
| 1914–15 . | 1,075 | 4,888,454 | 4,343,400 |
| 1915–16 . | 758 | 3,094,114 | 2,558,540 |
| 1916–17 . | 1,803 | 7,058,563 | 5,808,400 |
| 1917–18 . | 2,069 | 7,532,031 | 6,411,844 |
| 1918–19 . | 2,024 | 6,916,621 | 6,354,000 |
| 1919–20 . | 2,478 | 9,374,499 | 8,935,870 |
| 1920–21 . | 2,892 | 11,599,214 | — |
| 1921–22 . | 2,706 | 10,884,910 | — |
| 1923 . . | 3,967 | 7,619,857 | 17,507,630 |
| 1924 . . | 5,230 | 26,994,710 | 24,289,603 |
| 1925 . . | 4,673 | 23,958,836 | 21,400,522 |
| 1926 . . | 5,197 | 26,037,448 | 22,931,056 |
| 1927 . . | 5,475 | 27,248,215 | 24,228,830 |
| 1928 . . | 6,456 | 29,630,709 | 26,944,500 |
| 1929 . . | 6,413 | 30,663,006 | 27,127,377 |
| 1930 . . | 6,185 | 30,030,232 | 27,076,890 |
| 1931 . . | 5,529 | 25,082,800 | 24,645,457 |
| 1932 . . | 4,506 | 19,807,998 | 20,707,000 |

The passenger traffic of the Trans-Pacific routes is recruited partly from business men and tourists arriving in the Far East from America or from Europe *viâ* America and partly, in steadily increasing measure, from Chinese and Japanese emigrants.

Exact statistical data are available with regard to Japanese emigrants only. According to these data the numbers of persons who emigrated from Japan in 1929 across the Pacific Ocean to various countries were as follows: To the U.S.A., 236; to Hawaii, 119; to Canada, 430; to Mexico, 249; to Central and Southern American countries (chiefly to Brazil), 17,767—or in all 18,801. (Source used "Statistics of Japanese Emigration," edited by the Commercial Bureau, Department of Foreign Affairs, Tokyo, 1930.)

Much more important than Japanese emigration is Chinese emigration, concerning which, however, exact data are not available.*

The steadily growing emigration movement has induced the shipping companies engaged in Pacific shipping to introduce a steerage class, which carries Japanese and Chinese emigrants (mostly coolies) for passage fees established by agreement. (See the 1930 publications of O.S.K. and N.Y.K.)

The shipping of Japanese emigrants is handled chiefly by the two largest Japanese companies, who possess a concession from their Government to this effect.

When examining passenger and goods tariffs on the shipping routes mentioned, the great difference in passenger fares within the same class is very striking. For instance, the American Mail line has no less than eight kinds of first-class fares alone, the difference between the various fares being very considerable. (The price of first-class cabins varies from 783 to 375 U.S. dollars.) Often the differences within the same class are greater than between one class and the next one. Besides, the N.Y.K., since putting their new motor ships in commission, makes an appreciable difference between one ship and another, whilst in the case of American ships such a distinction is not made, as they all belong to the renowned "535 President" type. These ships have been constructed "in series" during the War at the same cost, and are therefore burdened with the same amount of interest on capital.

The differences in fares between one company and another are very considerable, and it is this very circumstance which represents the most important difference between the Pacific shipping routes and Atlantic shipping routes. The low fares of the O.S.K. are due to the type of their ships (cargo ships, inconvenient old units), whilst there is really no reason for the difference between the different prices charged by the Dollar Line, the N.Y.K. and the C.P.R.

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* According to the "Statesman's Year-book" for 1930, the number of Chinese residing abroad has been estimated at 6,246,000. The number of Japanese residing abroad is given by the publication quoted above at 709,000 in 1928, and 760,000 in 1929.

Below we publish the passenger fares of the shipping routes mentioned which will give a more general idea of existing conditions.

The fares (in dollars) of the San Francisco-Yokohama line * are as follows :

| Name of company. | First class. | Second class on the new motor ships of the N.Y.K. | Second class. | Second class steerage " B." |
|---|---|---|---|---|
| | Dollars. | Dollars. | Dollars. | Dollars. |
| Nippon Yushen . | 300 | 190 | 160 | 110 |
| Dollar Line (about) | 400 | — | 240 | — |

On the direct shipping routes between the Far East and America, passenger fares are fixed on a less complicated system, as owing to traffic being comparatively small requirements have not varied to such an extent as on the route between the Far East and California.

The fare charged from Japanese ports to Valparaiso by the N.Y.K. Company, which maintains a direct line to this port, is $365 first class and $245 second class.

The Puget Sound-Far East route presents a more complicated table of fares, as on this line four companies are running regular services. The fares (in U.S.A. dollars) charged on the Victoria B.C.-Yokohama † route in the summer of 1930 were as given in the table on page 292.‡

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* The third-class and steerage fares of the N.Y.K. are fixed by agreement in each case.

† We mention Victoria as an American port, because the ships of all the four companies call there.

‡ On this route, some of the companies, for instance the O.S.K. and the Mail line, have no second-class, the only class provided in addition to first-class being " steerage," which corresponds to third-class and is chiefly used by Chinese and Japanese emigrants.

It is seen from this table that the lowest fares are charged by the O.S.K., the amount for first-class fare in a cabin of "A" type from Victoria to Yokohama being 195 dollars, so that this voyage of 4,200 nautical miles length costs 4·5 cents per mile, whilst with the N.Y.K. the rate per mile is 5·95 cents, with the C.P.R. 8 cents, and with the American Mail line 8·3 cents. The reason why the O.S.K. charges the lower fares is that the ships run on this line by the company are all of the semi-cargo type. Ships of the semi-cargo type generally charge lower passenger fares than ships registered as passenger ships, although really the latter also usually carry a considerable quantity of cargo.

| Name of company. | From America. | | | | To America. | | | |
|---|---|---|---|---|---|---|---|---|
| | 1st Class. | | 2nd or 3rd Class. | | 1st Class. | | 2nd or 3rd Class. | |
| | "A." | "B." | "A." | "B." | "A." | "B." | "A." | "B." |
| Nippon Yushen Kaisha | 250 | 230 | 125 | 110 | — | — | — | — |
| Osaka Soshen Kaisha . | 195 | 155 | 60 | 60 | 195 | 155 | 60 | 50 |
| Canadian Pacific . | 350 | 300 | — | — | — | — | — | — |
| American Mail Line . | 370 | 300 | 55 | 55 | — | — | — | — |

The future of the traffic between the Far East and America depends on two circumstances :

One of these is the continued expansion of Japanese industry in Eastern markets, owing to which American goods burdened with the costs of transport over the Pacific will sooner or later be crowded out, particularly from the Chinese market.*

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* This danger to American industry would cease if American industrial firms made arrangements for manufacturing the goods intended for the Far East on the Philippine Islands. This would, however, on the one hand, necessitate excessive investment, whilst, on the other hand, it would not be possible to protect sufficiently the industrial establishments in case of war ; moreover, the works would be situated at too great a distance from the places where the raw materials are produced.

Japanese industry made great progress during the War, when it became very evident that, in cases of temporary isolation, industrially developed countries have a better chance. The standing of Japan as a Great Power makes it imperative for that country to achieve its industrial independence. The great progress achieved by Japan in this field is illustrated by the following figures: The number of cotton spindles was, in 1930, nine million (as compared to six million in 1913). The production of raw silk increased from 1927 to 1930 from 3·6 million kilogrammes to 15·7 million kilogrammes. The quantity of pig iron produced in 1929 was 1,300,000 tons, as against 207,000 tons in 1913. The Japanese iron, steel and engineering industry is now able to manufacture its locomotives and more important industrial machinery at home, and, in addition, to construct the commercial and warships required. Similar progress is shown in the chemical, timber and paper industries.

Japanese industry is now planning a campaign of organised expansion, the first signs of which are already visible.

In 1913 China was purchasing 20 per cent. of its requirements of cotton goods in Japan, whilst to-day this figure has risen to 66 per cent.*

A further step in the progress of Japanese industry is represented by the industrial establishments (flour mills, collieries, electricity works, etc.) which Japan became, on the basis of agreements concluded with China, entitled to construct in Manchuria, and which it has in fact constructed along the line of the South Manchurian railway. (See " Zeitung des Vereins deutscher Eisenbahnverwaltungen," Year XXXII, No. 16.)

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* A similar expansion in exports of Japanese cotton goods may be expected in the British India market, where such expansion is aided by the boycott of British goods by Hindoo nationalists. In 1913 Japan was exporting only 100 million yards of cotton piece-goods to British India, whilst at present these exports amount to 350 million yards. The increasing industrialisation of Japan has induced Great Britain to send out a commission (Economic Mission to the Far East) which in its report issued in 1931 does not disguise the fact that in the field of the textile, steel and electrical industries, Japan is seriously beginning to oust European goods from the market. According to the May 16th, 1932, issue of the *Japan Times*, the export of textile goods from Japan to India has during the financial year (ending March) 1931–32, shown an increase of 35,795,000 square yards as compared with the preceding year.

Of the 30,000 mechanical looms which existed in China in 1929 11,000 were owned by Japanese firms.

Although at present the industry of the U.S.A. is still holding its position in the Far East very strongly,* and is even making fresh progress at the expense of European industry, it can be said that the progress of Japanese industry is greater and better organised.

This progress in Japanese industry may be interrupted by some events (for example, the movement against Japanese goods in China started in connection with the fighting around Shanghai in February and March, 1932), but it cannot be stopped. With regard to all that has been said, compare also H. Levy, " Der Aufstieg der Fernöstlichen Grossindustrie " (in the book, " Der Internationale Kapitalismus und die Krise," published by Messrs. Enke, Stuttgart).

As Japanese industry gains ground at the expense of the American industry, American imports into Far Eastern countries will of course diminish in quantity and value, and accordingly the shipping traffic across the Pacific Ocean will lose part of its intensity.

On the other hand, and this is the second circumstance which has to be considered, it is probable that the Pan-American idea, whose origin can be traced to the Monroe Doctrine, which is at present only an attitude of mind of a part of the population of America, may in the future become an active reality. Now already this idea has materialised to a certain extent in the form of close economic co-operation between the U.S.A. and South America. It is not possible to calculate at present what the effect would be if the Pan-American idea became a fact, but it is possible that there would result a group of commercial treaties between the U.S.A. and the countries of South America, which would aim substantially at raw

* See the reports of the Economic Mission to the Far East.

materials being supplied to the U.S.A. by South America, whilst South America would, on the other hand, be supplied with industrial articles by the U.S.A. Such a state of things would influence the traffic with the Far East in various ways.

The importation of a number of raw materials and agricultural articles from the Far East into the U.S.A. would become unnecessary, and, on the other hand, the U.S.A. industry, which to-day absolutely needs the Far Eastern, particularly the Chinese market, would find employment at least in part in the South American countries, provided of course that in accepting the Pan-American programme the Argentine, Brazil and Chile gave up trying to improve their own industries, which are still in a very undeveloped state.

In this particular point the Pan-American programme is most favourable to the Japanese industry.

In both eventualities referred to, Trans-Pacific traffic would considerably decrease. All these are, however, only possibilities of the distant future, particularly as in South America the Ibero-American idea, of which more has been said on p. 288, is beginning to be a rival to the Pan-American idea.

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# CHAPTER II

## COMMUNICATIONS BETWEEN THE FAR EAST AND AUSTRALIA

TRAFFIC between the Far East and Australia is far less important than that of the shipping routes discussed in the preceding chapter. This applies to passenger as well as to goods traffic. The Australian continent, with its population hardly exceeding seven million, is in itself not a very important consuming market. Moreover, the products of the Commonwealth of Australia are in many respects the same as those of Japan and China, whilst many articles of necessity which are not produced in the Commonwealth can be obtained from other parts of the British Empire, with which the Commonwealth of Australia has preferential agreements, on more favourable terms than from China or Japan.*

Accordingly, goods traffic between Australia and the Far East is chiefly directed not from north to south but from south to north, or, in other words, Australian exports to the Far East greatly exceed Australian imports from the Far East. (The value of the exports of Australia to Japan amounted to 9·5 million £ in 1930/31, whilst that of its imports from Japan amounted to 2·4 million £ only.)

As regards passenger traffic, a considerable part consists of the transport of Chinese and Japanese emigrants, who during the last decade have been going in great numbers to the Dutch East Indies and to those islands formerly German possessions and now, after the War, under Japanese rule. The ships plying between Australia and the Far East generally call at these islands.

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* See the parts concerning Great Britain of the Australian Customs' Tariff of 1921–28, the Agreement with New Zealand, dated September 1st, 1922, modified last in 1928, and the 1924 agreement between Australia and Canada. Certain products of New Guinea and of the British Pacific Islands (Papua) are not subject to customs' duty according to the decrease which came into force on April 1st, 1926. For the newest agreements concluded at the Ottawa Conference of 1931–32, see the March, 1932, number of the *Round Table*.

It is clear, therefore, that the restrictions placed on immigration by the U.S.A. have, by directing the expansion of the Yellow race into new channels, caused a considerable increase in the passenger traffic between the Far East and Australia. This slow but permanent movement of the Yellow race towards the south still continues, whilst the number of Japanese returning from the emigration territories to their home country is quite insignificant. The reason for this is that up to now the Dutch authorities have not employed such strict measures against immigrants as were employed by the U.S.A. when they cancelled the so-called "Gentlemen's Agreement" concluded in 1908; and, further, that the territories in question are not yet so overcrowded with Chinese and Japanese labour as to render these workers, with their low standard of life, incapable of making a living.

Accordingly, the present position of the traffic between the Far East and Australia may be summed up by saying that goods traffic is chiefly directed from south to north, whilst passenger traffic, on the contrary, is directed mainly from north to south.

Ships plying between Australia and the Far East may follow two different lines. One of these, which is the more important one, runs between the continent of Asia and the Philippine Islands and, passing south of the Melanesian group of islands, reaches the eastern ports of the Australian continent, namely, the important ports of Brisbane and Sydney, and passes from the latter port to New Zealand.

The second route, the importance of which has increased since the War, is important to Japan, chiefly because it links up the Marianne, Marshall and Caroline Islands, which have become Japanese possessions since the War, with the mother country on the one hand and with Australia on the other. This route, starting from Yokohama or Kobe, passes through the Bonin Islands, the port of Saipan, on the Marian Island, and then passes on to Brisbane.

Line shipping on these routes is handled by the following more important shipping companies :

1. The Nippon Yushen Kaisha (the Japan Mail Steamship Co.), Japan-Australia line. Regular monthly sailings are maintained between Yokohama - Kobe - Nagasaki, Shanghai, Hongkong, Manilla, Zamboanga, the Thursday Island, Brisbane, Sydney and Melbourne. On this line there are three steamers of 8,000 tons each. The steamers are of the semi-cargo type, *i.e.*, arranged for goods and passenger transport alike. The passenger fare between Yokohama and Brisbane is £59 first class, and £38 second class.

The South Sea Islands branch line of the same company also has monthly sailings from Yokohama, passing east to the islands of Moji, Palao, Truck, Ponape and Jaluit, and subsequently returning west by way of the islands of Palao, Saipan and Yap. This is practically the only line running to the Micronesian Islands. In the autumn of 1932 two ships of 6,000 tons each were put in commission on this line.

2. The Eastern and Australian S.S. Co. Ltd. This is a company forming part of the Peninsular and Oriental concern. It maintains monthly sailings from Melbourne *viâ* Sydney and Brisbane to Borneo and from there, *viâ* the Philippine Islands, to China and Japan. In 1930 the traffic was maintained by means of three ships of smaller size.

It can be seen from what has been said that on the routes in question the maintenance of regular sailings, by means of which goods are transported at a predetermined time and at a fixed freight rate, hardly pays. The cost of insurance is also rather high, partly owing to natural dangers (frequent intense storms, coral reefs, etc.), and partly owing to the fact that the ship units maintaining these services are of an antiquated type. The insufficient equipment of the Micronesian and Melanesian ports touched on the way renders the loading and unloading of goods costly and cumbersome. Under these circumstances tramp shipping has become a very important rival to the large shipping companies on these waters.

When investigating the reasons why tramp shipping has developed so much in these regions, it is clear that the peculiar geographical conditions existing in the island world of the Pacific Ocean are particularly important in this respect. The connection between the many hundreds of small islands, inhabited almost exclusively by natives, as well as their connection with the mainland cannot be effected by means of regular line sailings, chiefly because it is only at certain periods of the year (for instance, after the coconut harvest and after the harvesting of copra), that it is worth while to send a ship to the small islands for the transport of the harvest to the mainland and to supply the natives with the articles they require. The passenger traffic between the islands is, owing to the very low standard of life of the inhabitants, quite insignificant, and any local barter of goods which takes place between them is mostly effected by sailing barges, which are a primitive form of the coasting trade.

The products of the islands are, accordingly, usually handled by the ships of some of the more important private firms which visit the islands from time to time and take over the goods produced. These ships generally also undertake the transport of other kinds of goods at rates which are much lower than those of the large shipping companies with a fixed freight tariff. Native passengers are also often transported by these ships in return for work done by them in the ships.

In order to meet this competition, the larger shipping companies now also organise sailings of steamers without any fixed route, taking goods at freight rates agreed upon separately in each case, or they offer their cargo boats for charter. This is done, for instance, by the Osaka Soshen Kaisha.

Line shipping can only maintain rare sailings in these waters and can only touch a small number of centrally situated points, where the goods are unloaded and from which they are distributed to the adjacent islands by small tramp ships.

Thus a certain amount of co-operation between the shipping companies and the owners of tramp ships may be arranged.

For similar reasons, line shipping will not pay in the direct traffic between Australia and Japan, because, although, as explained above, a line ship sailing from Australia to Japan may utilise its stowage space to a sufficient degree on the outward journey, it will not be able to collect sufficient freight for the return journey. But a tramp ship which, arriving from Australia in Japan, is not compelled to return by the same route, but is able to go to America first before returning to Australia, not being obliged to touch at certain ports, will be in a more favourable position.

The time taken for the journey from Kobe to Sydney is thirty-four days, for the journey from Hongkong to Sydney twenty-four to twenty-six days.

The data published below, which are for the year 1928, which belongs to the normal period before the present economic depression, illustrate the volume of traffic between Japan and Australia. The traffic between Australia and the Japanese ports was, in 1928, as follows: Japan imported from Australia and New Zealand goods to the value of 131 million yen and exported to these territories goods to the value of 46 million yen. These exports and imports were divided among the various ports of Japan, the quantities handled by the three most important Japanese ports being as follows:

| Imports. In gold yen. | | Exports. In gold yen. |
|---|---|---|
| 44,000,000 | Yokohama | 10,000,000 |
| 30,000,000 | Kobe | 31,600,000 |
| 28,000,000 | Osaka | 1,000,000 |

It can be seen from this table how greatly the imports from Australia of the large industrial towns of Japan where raw materials are worked up, such as Osaka and Yokohama, exceed their exports to Australia.

It should be noted that during recent years the trade of Australia with the Far Eastern countries has been increasing very rapidly. (See also the table on p. 34.)

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# CHAPTER III

## THE MARITIME ROUTE FROM THE FAR EAST TO EUROPE AND AFRICA

THE seas of the world form one whole, in which the continents are placed like so many isles. Accordingly the main sphere of communications in the world are the seas.

Up to the middle of the last century world traffic had always to be directed across the large open oceans. But the configuration of mainlands placed great distances between various parts of the world and ships were able to reach their point of destination only by very devious ways.

The opening of the Suez Canal gave a new route to world traffic in one of its most important directions.

For, by making the Mediterranean Sea cease to be merely a large bay, it created a shorter connection between two of the great oceans, the Atlantic and the Indian Ocean. Before the opening of the Suez Canal it was possible to reach India, the East Coast of Africa and the Far East of Europe only by rounding the Cape of Good Hope.

Two further events which took place at approximately the same time as the opening of the Suez Canal still further increased the economic importance of the latter. One of these was the entrance of China and Japan into the economic system of the world, which took place about the middle of the last century. China was forced by united British and French armies to conclude commercial treaties (Peace Treaty of 1860). It was at this time also that Japan began, under the leadership of the Emperor Meiji, to reorganise its public and social life in a Western spirit. The other circumstance was that at this time the use of steamships was rapidly becoming general, so that by 1870 the world already possessed a sufficient number of steamers to enable the Suez Canal—on which, owing to conditions of wind, it is impossible for sailing ships to navigate—to be economically utilised.

The first-named circumstance helped the Suez Canal to achieve economic success, owing to the fact that the opening of China and Japan offered new markets to European and American trade.

The second circumstance helped to put sailing ships definitely out of the running. (In 1870 sailing ships still constituted 71 per cent. of the world's fleet; in 1895 their proportion already diminished to 20 per cent., to-day it scarcely amounts to 10 per cent.)

The development of the shipping trade between Europe and the Far East accordingly came about primarily as a result of the opening of the Suez Canal, this being the first time that man had created a new world line by altering the old Indian route which had been in existence since the days of Albuquerque and Warren Hastings.*

Until the Cape to Cairo Railway is completed, the whole traffic between East Africa (a part of the South African Union, Kenya, Uganda, Tanganyika and the Soudan) and Europe will also necessarily continue to pass through the Suez Canal.†

Although it may not be strictly within the scope of the present chapter, we will here give a short account of the economic and political circumstances which influenced the construction of the Suez Canal and of its present working. It is true that it is not Far Eastern traffic alone which is served by the Suez Canal, but, on the other hand, the part played by this canal in the shipping relations between Europe and the Far East is so decisive—the shipping relations having really been created by it—that such a general account may be found useful.

A. Oppel (A. Oppel, "Der Welthandel," Frankfurt a/M. 1914) has estimated the quantity of goods transported on the Atlantic Ocean at a value of 140,000 million marks per annum, and that of the goods transported on the Indian Ocean at that of 12,000 million marks per annum. Although these data are to-day no longer correct, they nevertheless give some idea of the importance of the traffic on the various oceans of the world.

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* This change of route of world traffic does not relate to sailing ships (which, however, are to-day no longer of any great economic importance), as these still follow the old route *viâ* the Cape of Good Hope, utilising the north-western winter monsoon. (So-called Mulmein rice ships from Farther India.)

† With the aid of the railways leading from inner Africa to the shores of the Indian Ocean and the Red Sea.

Although when the Suez Canal was opened the value of the trade carried in the Atlantic as well as that of the trade in the Indian Ocean was still far below the figures quoted by Oppel, it can be imagined how appreciably that trade, a very considerable trade even then, has been increased by the establishment of a direct connection between the two oceans, and how the Mediterranean Sea has been converted into a transit sea of first-rate importance.

It is true that by the opening of the Suez Canal the southern part of the Atlantic Ocean has been deprived of its Indian traffic, and the southern part of the Indian Ocean of its European traffic.

In remotest antiquity even attempts were made, particularly in 650 B.C. by the Pharao Neko, to connect the Nile with the Red Sea by means of a canal. According to the report of Herodotus, these works cost the lives of 120,000 slaves, and were interrupted in consequence of a prophecy. A hundred years later the schemes of Neko were put into execution by the Persian King Darius; on the canal constructed by the latter two barges of medium size were able conveniently to pass each other.

When the capitalist and colonising countries of modern Europe began their well-planned expansion in Asia and Africa, it became more and more apparent that it was of very great importance to bring the eastern parts of Asia and Africa nearer to Europe. At the beginning of the colonising period it was only by rounding the Cape of Good Hope that it was possible to reach these parts, and this long journey rendered the importation of the raw materials of the colonies into industrial Europe difficult and expensive. When Ferdinand de Lesseps was staying in Cairo in 1836, as a young member of the Diplomatic Service, he immediately recognised the importance of a canal connecting the Mediterranean with the Red Sea would possess. In the course of his negotiations he aroused the interest of official circles in this scheme and received permission to effect preliminary surveys. These surveys effected by de Lesseps, jointly with the Austrian engineer Negrelli, showed the scheme to be practicable. After many vicissitudes, the Khedive finally signed the contract on January 5th, 1856, and thereby gave permission to start the work of construction.

The problem as to how to produce the necessary enormous amount of capital was a very difficult one, particularly as British capitalists, the bankers of the world at that time, were, for reasons to be set forth later, averse to the scheme; the Palmerston Government in power then was unwilling to provide any capital. Finally the promoters were successful in establishing a limited company, with a share capital of 200 million francs, divided into 400,000 shares of 500 francs each. Public opinion, however, had still so little confidence in the success of the venture, that it was only by the intervention of the Kkedive, who bought a considerable number of shares, that it was finally possible to collect the money and start the work of construction. The drinking water alone which had to be obtained for the 25,000 to 30,000 workmen cost 56,000 francs per week. The ranks of the workmen were ravaged by cholera, typhoid fever and plague, but the dredges continued to work, and finally, on March 18th, 1869, the waves of the two seas mingled with each other in the Lake Ameris. On November 17th of the same year, the most important canal of the world was opened to traffic in a most brilliant manner; several European monarchs, among them the Emperor-King Francis Joseph I, being present at the festivities. Since then the importance of the Suez Canal, from the point of view of international economics and politics, has still further increased, and it can aptly be called a Gate of

Nations, since it is through it that the various races and products pass to each other's territories.

But the sum which had actually to be expended on the construction of the canal amounted to 433 million francs, thus more than doubling the original estimate. The confidence of the public in the earning power of the company was shaken to such an extent that in 1870, *i.e.*, during the year following the opening of the canal, the shares of 500 francs nominal value were quoted at prices which never exceeded a maximum of 380 francs. The canal passage fee, which originally was fixed at 10 francs per ton, had to be raised temporarily by 3 francs per ton, so that the receipts during the first year should at least cover working expenses and interest on capital.

However, events proved conclusively that the public was mistaken in its lack of confidence, for the Suez Canal soon became one of the indispensable arteries of the world's communication system.

The economic importance of the Suez Canal may be viewed from two angles: from the general international and from the particular English angle.

It is beyond doubt that from an international point of view the chief importance of the Suez Canal is that it has considerably lessened the distance between Europe and Asia, the east coast of Africa and even Australia.* The time and cost thus saved has helped to diminish the price of many commodities. In consequence of the opening of the canal, the traffic of many ports, particularly of London and of the Mediterranean ports, has greatly increased, whilst that of Capetown has considerably declined. The opening of the Suez Canal has had a favourable influence on the development of shipping in all colonising countries.

In order to enable the effects of the Suez Canal to be properly judged from the English point of view, a few words must first be said about the development and structure of the British Empire (Great Britain, British Dominions and Colonies), and about the organic connection between its various parts.

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* For instance, whilst before the opening of the Suez Canal the distance by sea from Marseilles to Bombay was 10,000 miles, it is now only 4,300 miles. Similarly, the distance to Singapore has been altered from 10,400 to 7,000 miles, that to Yokohama from 13,700 to 9,500 miles, that to Sydney from 11,500 to 9,400 miles.

Among the histories of all large countries of the present day, that of the British Empire is particularly remarkable. It shows the gradual development of a large economic unit aiming at a certain self-sufficiency, the attainment of which is, however, rendered difficult by the fact that its various parts, supplementing each other from an economic point of view, are situated at great distances from each other and that their co-operation entirely depends on the means of communication between them.

Undoubtedly the most important among the territories forming the British Empire is India, whose preservation has always been a concern of the first importance to all British Governments. As explained in a previous article written by the author of this book,* it is Egypt, *i.e.*, the Suez Canal, which forms the gate of passage between Great Britain and her most important and fertile dominions, colonies and possessions, viz., India, Australia, the Federated Malay States, Ceylon, etc. Before the opening of the Suez Canal it was not possible to navigate by this route ; the only way to reach India was by a long circuitous route around the Cape of Good Hope, so that ships had to travel for many weeks and were able to call only at one single base in British hands on the way, South Africa. Now the efforts of Great Britain have at all times been directed towards securing the communication routes between the mother country and the Colonies by means of intermediate base points, towards securing the territory of straits through which these routes passed in order to safeguard her own rule and existence. Thus there came into existence a belt route encircling the whole world ; the so-called all-red route, which, starting from London, passes *viâ* Gibraltar (the gate between the

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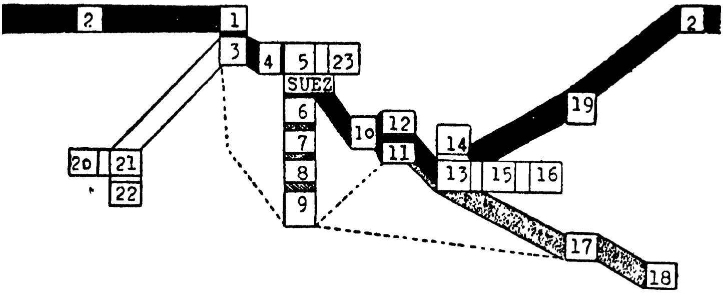
* See April 29th, 1928, issue of the Hungarian newspaper, *Pesti Hirlap*, "British World Politics and Present-Day Egypt."

Mediterranean Sea and the Atlantic Ocean), Malta (the point of transit between the eastern and western basin of the Mediterranean Sea (Cyprus, Aden), the southern entrance of the Red Sea), Ceylon, Singapore (Malacca Straits), Hongkong and Canada, back to London as the centre of the Empire. The Suez Canal represented a link in this chain of British posts running around the world, and its coming into British possession forged the last link in this chain and converted the Indian and Australian route, previously an unprotected, unsafe route over wide seas, into a safe route protected by British possessions, through the linking up of the two ends of the chain referred to, viz., Cyprus (*i.e.*, the Mediterranean Sea) and Aden (*i.e.*, the Indian Ocean).

It was in the second half of last century, that is to say, just at the time of the construction of the Suez Canal, that Russo-British rivalry, which exists in Asia to this day and permanently threatens India from the north, began to show itself. Russia made every possible attempt to destroy the Turkish Empire, so that by marching through that Empire it could attack India from that side. It can be imagined what disastrous consequences would have ensued for Great Britain if, by some unforeseen event, Russia could have taken possession of Egypt and of the Suez Canal; for by thus wedging herself between British possessions and the mother country she could not only have conquered India and thereby ruined the whole British Empire, but by progressing further into Africa and populating a wide, enormous territory, she could have created a Russian world empire.

It was the necessity of safeguarding India, which was one of the reasons that forced Great Britain to pay particular attention to the Suez Canal. Another reason was the proposed construction of a " Cape to Cairo " railway, *i.e.*, of a railway line intended to effect the linking up of British possessions in North and South Africa, thus bringing the latter nearer to the mother country and creating a second large British chain system in a north to south direction, which would be connected perpendicularly at Suez with the "belt." Thus the Suez Canal has become the corner-stone of the British Empire, where the goods coming to and from the mother country meet and are distributed.

The appended diagram is intended to give a clearer idea of what has been explained above. It is clear from it that between the mother country (Great Britain) and most of her colonies, the main route of traffic as well as the lines connecting intermediate base points pass through the Suez Canal or run along routes branching out from it.



The main routes of the British Empire and the position of the Suez Canal: (1) = Great Britain; (2) = Canada; (3) = Gibraltar; (4) = Malta; (5) = Cyprus; (6) = Soudan; (7) = Uganda; (8) = Kenya; (9) = South Africa; (10) = Aden; (11) = Ceylon; (12) = India; (13) = Singapore; (14) = Federated Malay States; (15) = British Borneo; (16) = Pacific Islands; (17) = Australia; (18) = New Zealand; (19) = Hongkong; (20) = British Honduras; (21) = British Antillas; (22) = British Guiana; (23) = Palestine and Mesopotamia. The black line denotes the belt line (all-red route), the hatched line denotes the line connecting the possession in Africa (Cape to Cairo line), whilst the dotted line is the Australian branch line. The white lines are lines of minor importance.

It can be seen from this sketch also that the two main routes, the belt line and the line from north to south, meet at the Suez Canal.* What the results to British shipping would have been if the Suez Canal had come into foreign hands has already been explained above. We will here only mention a scheme, the so-called Howard Vincent plan, which Great Britain proposed to carry out at the beginning of the present century. Undoubtedly, measures similar to those in this plan would have been employed by Great Britain if the Suez Canal had fallen into other than British hands.

The essential point of this scheme was that, as the British Government had, in the course of the events of which an account will be given later on, become the owner of 44 per cent. of the shares of the Suez Canal Company, the British Government should, out of the large dividends falling to its share, repay an amount of 2 gold francs per ton to the British shipping companies. This would have meant in practice that on the Suez British shipping companies would be able to ship goods at lower freight rates than other companies, and therefore the steadily increasing competition of foreign shipping companies would on this line have been unable to menace British shipping companies. This plan, however, remained merely a proposal, and Great Britain is contented to receive the enormous profit accruing to it annually from the Suez Canal shares.†

The reasons enumerated above explain why Great Britain has a greater and more particular interest in the Suez Canal than any other country. It will, therefore, be readily understood why de Lesseps' scheme in its original form was not well received in England, and why Lord Palmerston's Government endeavoured to put obstacles in its way by declining to finance it with British capital. When the Khedive suddenly bought 90 million francs worth of shares and the work was started, the danger became an imminent one for Great Britain. A great part of the shares were in the hands of a weak and spendthrift prince, and it was possible that at any moment they might be acquired by the Russians or by the French. From this moment onwards Great Britain made every effort to acquire the shares, and their transference into British hands was one of the greatest financial transactions of modern times. The Khedive Ismail really brought Egypt to the brink of financial ruin by his extravagant expenditure, and in 1875 the bankruptcy of Egypt was already impending. The French having become aware of this state of things started negotiations with the Khedive with a view to obtaining the shares. Disraeli, the British Prime Minister at that time, however, also received knowledge of this situation, and by promising France his support against Germany, induced the French to abandon the proposed purchase of the shares. The difficulty was, however, how to procure at once the necessary sum of four million pounds sterling. The British Parliament happened not to be sitting at that moment, and therefore Disraeli, backed up merely by the Cabinet, borrowed from Messrs. Rothschild in London within twenty-four hours the sum of four million pounds sterling, giving the word of honour of the British Government as a security (a case unparalleled in history), and a few days later the shares were in British hands. It was thus that Great Britain became the largest shareholder in the Suez Canal Company. To-day 44 per cent. of the shares are owned by the British Treasury.

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* The British belt line is formed by the points 1, 3, 4, 5; Suez, 10, 11, 13, 19, 2, 2, 1; whilst the great connecting line running from north to south is represented by the points Suez, 6, 7, 8, 9.

† In addition to other reasons of foreign policy, the failure of the Howard Vincent plan was also due to various international agreements by which Great Britain's freedom of action with regard to the Suez Canal was restricted.

In this way Great Britain is at all times able to exercise a decisive influence in the financial control of the Suez Canal. The remaining 56 per cent. of the shares are distributed among various countries, scattered over a large number of shareholders, and it is practically impossible to concentrate them in one hand.

To-day the Canal yields a profit of such magnitude that 70 per cent. of the income, which is almost exclusively derived from the passage fees paid by ships, can be paid out as dividends. The expenditure is confined to the salaries of the employees, whose number is really quite small, and to the cost of dredging and shore protection required for the keeping of the Canal in working order. In order to enable the development of the Suez Canal to be more clearly seen, we append a table showing this development, from every point of view, up to the present day. As can be seen from this table, the development of the Canal is represented by a curve which, apart from small fluctuations, has a constant upward tendency. It is only during the years of the War that any considerable falling off is noticeable, and this was, of course, because it was then impossible for the ships of the Central Powers to use the Canal and because the ships of some of the Neutral Powers, particularly Dutch ships, avoided the Canal owing to the danger of mines and to the subsequent submarine warfare. After the return of peace normal traffic was soon re-established, and very soon the traffic even exceeded that of the last pre-War years. It appears from the table that between 1870, the year in which the Canal was opened, up to the year 1928, the traffic increased to about fourteen times its original amount, counting the number of ships only, whilst receipts, owing to the increase of average tonnage, rose to as much as forty times their original figure, although the Canal fee had in the meantime been reduced from ten gold francs to seven gold francs. This enormous increase of the tonnage passing through the Suez Canal also strikingly illustrates the importance of the Canal for trade generally, and particularly for the utilisation of colonial products (see table on page 314).

The table has been compiled from various sources. The figures given by the various sources differ slightly, the differences being due to the fact that in some publications, for instance, military passengers have not been counted during the years of peace, or warships which have been passing through the Canal have not been taken into account. British publications state the tonnage in gross registered tons, German and French publications in

## TRAFFIC DATA OF THE SUEZ CANAL

| Year. | Number of ships. | G = gross registered tons. N = net registered tons. | Number of passengers. | Receipts in gold francs, from 1928 onward, in French francs. | Fee payable per ton in gold francs. | Highest quotation of shares. | Dividend paid. | Time taken for the passage through the Canal. |
|---|---|---|---|---|---|---|---|---|
| 1870 | 486 | 436,000 G | 26,758 | 5,234,000 | 10.00 | 380 | 25 | 48 |
| 1871 | 765 | 761,000 G | — | — | 10.00 | — | — | — |
| 1872 | 1,082 | 1,439,000 G | — | — | 10.00 | — | — | — |
| 1873 | 1,173 | 2,085,000 G | — | — | 10.00 | — | — | — |
| 1874 | 1,264 | 2,424,000 G | — | — | 13.00 | 475 | — | — |
| 1875 | 1,494 | 2,941,000 G | — | 26,500,000 | 13.00 | 865 | 26 | — |
| 1876 | 1,457 | 3,072,000 G | — | — | 13.00 | — | — | — |
| 1877 | 1,663 | 3,419,000 G | 72,822 | — | 12.50 | 762 | 33 | — |
| 1878 | 1,593 | 3,292,000 G | — | — | 12.50 | — | — | — |
| 1879 | 1,477 | 3,237,000 G | — | — | 12.00 | 770 | 29 | — |
| 1880 | 2,026 | 4,345,000 G | 101,551 | 36,500,000 | 12.00 | 1,327 | 46 | 38.5 |
| 1881 | 2,727 | 5,794,000 G | — | — | 11.50 | 3,475* | 56 | — |
| 1882 | 3,198 | 7,122,000 G | — | — | 11.00 | 2,267 | 68 | — |
| 1883 | 3,310 | 8,051,000 G | 119,177 | — | 10.50 | 1,875 | — | — |
| 1884 | 3,284 | 8,320,000 G | — | — | 10.00 | 1,832 | — | — |
| 1885 | 3,624 | 8,985,000 G | — | 61,000,000 | 9.50 | 2,213 | — | — |
| 1886 | 3,100 | 8,183,000 G | — | 60,900,000 | 9.50 | — | — | — |
| 1887 | 3,137 | 8,430,000 G | — | 60,900,000 | 9.50 | — | — | — |
| 1888 | 3,440 | 9,438,000 G | — | 61,100,000 | 9.50 | 2,185 | 89 | — |
| 1889 | 3,425 | 9,606,000 G | — | 62,000,000 | 9.50 | 2,327 | 91 | — |
| 1890 | 3,389 | 9,794,000 G | 180,594 | 65,400,000 | 9.50 | 2,430 | 92 | 24 |
| 1891 | 4,207 | 12,218,000 G | 194,468 | 65,200,000 | 9.50 | 2,732 | 112 | — |
| 1892 | 3,559 | 7,659,000 N† | 189,809 | — | 9.50 | — | 99 | — |
| 1893 | 3,341 | 7,680,000 N | 186,496 | — | 9.00 | 2,650 | — | — |
| 1894 | — | — | — | — | 9.00 | — | — | — |
| 1895 | 3,434 | 8,448,000 N | — | 80,700,000 | 9.00 | — | — | — |
| 1896 | 3,409 | 8,560,000 N | — | 82,200,000 | 9.00 | — | — | — |
| 1897 | 2,986 | 7,899,000 N | — | 75,600,000 | 9.00 | — | — | — |
| 1898 | 3,503 | 9,238,000 N | — | 87,900,000 | 9.00 | — | — | — |
| 1899 | 3,607 | 9,895,000 N | — | 94,300,000 | 9.00 | 3,830 | 110 | — |
| 1900 | 3,441 | 9,738,000 N | 282,203‡ | 93,450,000 | 9.00 | — | — | 18.5 |
| 1901 | 3,699 | 10,824,000 N | 270,221 | 103,100,000 | 9.00 | — | — | — |
| 1902 | 3,708 | 11,250,000 N | 223,513 | 106,850,000 | 9.00 | — | — | — |
| 1903 | 3,761 | 11,907,000 N | 196,024 | 106,870,000 | 9.00 | — | — | — |
| 1904 | 4,237 | 13,401,000 N | 210,980 | 119,180,000 | 8.50 | — | — | — |
| 1905 | 4,116 | 13,133,000 N | 252,691 | 117,300,000 | 8.50 | 4,625 | — | — |

* There was a great rise in the price of the shares owing to excessive speculation.

† Falling-off in the traffic due to the cholera epidemic.

‡ Passenger traffic increased owing to the transport of troops.

TRAFFIC DATA OF THE SUEZ CANAL—*continued*

| Year. | Number of ships. | G = gross registered tons. N = net registered tons. | Number of passengers. | Receipts in gold francs, from 1928 onward, in French francs. | Fee payable per ton in gold francs. | Highest quotation of shares. | Dividend paid. | Time taken for the passage through the Canal. |
|---|---|---|---|---|---|---|---|---|
| 1906 | 3,975 | 13,443,000 N | 353,881 | 112,000,000 | 7.75 | — | — | — |
| 1907 | 4,267 | 14,728,000 N | 243,826 | 120,100,000 | 7.75 | — | — | — |
| 1908 | 3,795 | 13,640,000 N | 218,967 | 111,600,000 | 7.75 | — | — | — |
| 1909 | 4,239 | 15,708,000 N | 213,122 | 123,500,000 | 7.75 | — | — | — |
| 1910 | 4,533 | 16,682,000 N | 233,978 | 133,700,000 | 7.75 | — | — | 17 |
| 1911 | 4,969 | 18,325,000 N | 275,694 | 138,000,000 | 7.25 | 5,450 | 170 | 17 |
| 1912 | 5,373 | 20,275,000 N | 266,403 | 139,900,000 | 6.75 | — | — | 16.2 |
| 1913 | 5,085 | 20,034,000 N | 282,235 | 129,900,000 | 6.25 | — | — | 16.2 |
| 1914* | 4,802 | 19,409,000 N | 391,772† | 125,100,000 | 6.25 | — | 120 | 16.1 |
| 1915 | 3,708 | 15,266,000 N | 210,530 | 98,200,000 | — | — | 120 | 18 |
| 1916 | 3,110 | 12,325,000 N | 283,030 | 89,000,000 | — | — | 90 | 19.1 |
| 1917 | 2,353 | 8,369,000 N | 142,313 | 72,000,000 | 8.50 | — | 65 | 18.1 |
| 1918 | 2,522 | 9,251,000 N | 105,914 | 92,960,000 | 8.50 | — | — | 23.1 |
| 1919 | 3,986 | 16,140,000 N | 527,502‡ | 184,700,000 | — | — | — | 16.1 |
| 1920 | 4,009 | 17,575,000 N | 500,147‡ | 267,450,000 | — | — | — | 16.3 |
| 1921 | 3,975 | 18,119,000 N | 295,199 | 260,100,000 | — | — | — | 15.2 |
| 1922 | 4,345 | 20,734,000 N | 275,031 | 305,450,000 | — | — | — | 15.4 |
| 1923 | 4,621 | 22,730,000 N | 246,431 | 419,250,000 | — | — | — | 15.2 |
| 1924 | 5,122 | 25,110,000 N | 263,869 | 508,600,000 | — | — | — | 15.2 |
| 1925 | 5,337 | 26,762,000 N | 269,522 | 608,750,000 | — | — | — | 15.2 |
| 1926 | 4,980 | 26,060,000 N | 286,432 | 746,550,000 | — | 26,700\|\| | — | 15.2 |
| 1927 | 5,545 | 28,965,000 N | 327,741 | 784,600,000 | — | — | — | 15.1 |
| 1928 | 6,084 | 31,906,000 N | 315,009 | 1,167,110,000 | — | — | — | 15.1 |
| 1929 | 6,274 | 33,466,000 N | 325,855 | 1,189,950,000 | 6.65 | — | 250 | 15 |
| 1930 | 5,761 | 31,670,000 N | 305,202 | 1,098,550,000 | 6.65 | — | — | — |
| 1931 | 5,366 | 30,028,000 N | 207,657 | 930,000,000 | 6.65 | — | — | 13.3 |
| 1932 | 5,032 | 28,340,000 N | 261,774 | 834,000,000 | 6.65 | 21.000 | — | 13.1 |

net registered tons. The figures of receipts have been rounded off.

* World War ; diminished goods traffic ; transport of troops from India to Europe ; fighting around the Canal ; the time taken by the ships to pass through the Canal, which during the War was partly silted up, was increased. The price of the shares fell. The Canal passage fee was increased.

† Passenger traffic increased owing to the transport of troops.

‡ The increase in the passenger traffic was due to the home transport of the Indian troops which were fighting on the European fronts.

|| Expressed in stabilised French francs.

Among the ships passing through the Suez Canal, those sailing under the British flag represent, of course, the largest number. The table published below gives the number of ships which have been passing through the Canal in four representative years during the last forty years, specified according to countries :

| | 1891. | 1912. | 1926. | 1931. |
|---|---|---|---|---|
| British . . . | 3217 | 3335 | 2673 | 2976 |
| U.S.A. . . . | 1 | — | 115 | 103 |
| German . . . | 318 | 698 | 422 | 568 |
| French . . . | 171 | 221 | 334 | 354 |
| Italian. . . . | 116 | 143 | 316 | 286 |
| Japanese . . . | 6 | 63 | 156 | 196 |
| Dutch . . . | 147 | 343 | 542 | 444 |
| Norwegian . . . | 55 | 60 | 111 | 151 |
| Swedish . . . | — | 38 | 58 | 79 |
| Austro-Hungarian . | 51 | 248 | — | — |

A remarkable fact appearing from this table is the great increase of the number of American, Japanese and Dutch ships, and during the last years the great increase in the number of Italian ships. It is also remarkable what a number of ships flew Austro-Hungarian colours before the War. The figures of the last years relating to German ships illustrate the rapid reconstruction of German shipping after the extremely dilapidated condition in which it found itself after the War.* It is also interesting to note that the figures of British shipping on this line have remained stationary for decades now as far as the number of ships is concerned.

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* Whilst in 1912 the number of German ships passing through the Suez Canal was the second in magnitude amongst all nations, in 1919–20, after the War, Germany occupied the tenth place only. To-day it has already regained the third place, coming after Great Britain and Holland. After the War the Austro-Hungarian flag, of course, vanished from the Suez Canal, whilst instead, but, of course, in much smaller numbers, Yugoslav ships have appeared.

When the construction of the Panama Canal was begun some people feared that the traffic to the Far East and to Australia on the Suez Canal would be diminished in consequence of the influence of the Panama Canal. This, however, was not the case.*

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* It is interesting to compare the economic function of the two most important ship canals of the world, the Suez and the Panama Canals. The development of the Panama Canal, which was opened in 1914, does not show such a slowly rising curve as the Suez Canal, but it rises in an almost incredibly steep curve. Comparing the data for the year 1929 for the two canals, it appears that during this year 6,271 ships passed through the Suez Canal, whilst 6,413 ships passed through the Panama Canal; the traffic through the Suez Canal amounted to 33,466,000 tons and the receipts to £8,800,000, whilst at the same time the traffic through the Panama Canal was 30,700,000 tons and the receipts £5,425,000. Many conclusions can be drawn from these figures. The first striking fact is, of course, that although the Panama Canal was handed over to traffic at a much later period, its development has to-day already reached, and, with regard to the number of ships, even surpassed the traffic of its elder sister. But though it can be seen that the rate of development of the Panama Canal is much more rapid than that of the Suez Canal, one must not conclude from this that the Panama Canal draws away from the Suez Canal any part of its traffic. It should, on the contrary, be remembered, that the construction of the Suez Canal was effected without there having been any pressing necessity for it, and that the organised colonisation of Asia and Africa has been a consequence of the construction of the Suez Canal, whilst as against this, the construction of the Panama Canal was demanded by pressing interests of a strategical and economic nature. In 1860, that is to say, before the opening of the Suez Canal, it was in India alone, among all countries of Asia, that a small number of Englishmen lived, and it was only after the opening of the Canal that the traffic of India and of the countries east of India with Europe increased to an extent never dreamt of before. As against this, in 1900, *i.e.*, three years before the construction of the Panama Canal was begun, North American capital was already busily engaged in the development of the economic resources of South America. Along the east coast of North America and the west coast of South America there existed a number of important ports, each with its own hinterland of industrial works or natural resources, and between these ports the establishment of rapid and cheap means of communication was an imperative necessity. The whole economic life of America was already, years before the construction of the Panama Canal, prepared for the opening of such a canal, and as a result of this situation it may be said that immediately after the Canal was opened, the ships waiting for it, thronged into the Canal. Thus the Panama Canal is due to the fact that South America, being a producer of raw materials, and North America, being engaged in industries working up these raw materials, supplement each other from an economic point of view. Raw materials are shipped from the western ports of South America through the Panama Canal to the large industrial towns on the east coast of the U.S.A. Accordingly, the Panama Canal has an exclusively local, *i.e.*, American importance, and it will never be able to exert an influence of attraction across the Pacific Ocean on Far Eastern ports. Goods bound for Europe from Hongkong will, in 90 per cent. of all cases, choose the Suez line, whilst goods from

The reason for this is that the Panama Canal is exclusively a " private " canal of the United States, which fact Singapore will, without exception, choose the Suez Canal. To prove more conclusively what has been explained above, we must mention the data for the year 1929, according to which, 20,780,500 tons of goods passed through the Panama Canal bound from South America for the East, *i.e.*, towards North America, whilst the quantity of goods which passed through the Panama Canal in the other direction was only 9,982,500 tons. It is seen, therefore, that the Panama Canal is nothing more than the gate through which South American raw materials flow into North American factories, and it will, owing to its geographical situation, be impossible for the Panama Canal to influence the traffic of the other parts of the continent until the economic centre of the world shifts from Europe to America. In other words, the importance of the Panama Canal will increase or diminish in proportion to that of the United States. With regard to passenger traffic, the Suez Canal will, undoubtedly, remain superior to the Panama Canal, because the passenger traffic through the Panama Canal is confined to passengers from Chile, Peru and Equador to New York and Europe and from New York and Europe to the countries named. Passenger traffic from North America to Australia does not pass through the Panama Canal, but through San Francisco. In the case of the Suez Canal, on the other hand, the situation is quite different, for until the Cape to Cairo Railway and the proposed railway to India *viâ* Baghdad and Persia are constructed, the only way to India and East Africa is through the Suez Canal. As soon, however, as the construction of the railways mentioned is an accomplished fact, the importance of the Panama Canal will, as far as passenger traffic is concerned, certainly decrease enormously.

As regards the Trans-Siberian Railway, it is only with regard to Far Eastern traffic that it competes with the Suez Canal, and to-day, when travelling on the Trans-Siberian Railway is rather unsafe, even this competition is not a very dangerous one.

A great difference exists between the two canals with regard to local shipping traffic. Whilst in the case of the Suez Canal, such local traffic is practically non-existent, it is very important in the case of the Panama Canal.

There is also a considerable difference between the Suez Canal and the Panama Canal with regard to their respective strategical importance. Whilst the former is important as a link between the different parts of the British Navy, the latter is a link between the Atlantic and the Pacific fleet of the United States Navy, and therefore greatly resembles the German Kaiser Wilhelm Kanal. It is chiefly to Japan that the Panama Canal represents a danger, as it has greatly increased the power of action of the U.S.A. Navy in the Pacific Ocean. The Suez Canal may in case of war easily be attacked either by some of the Mediterranean Powers, or from the land side by the Turks, as was indeed the case in 1914. Or, the Government of Egypt may make use of some war conflict and can easily create a *fait accompli*. From this point of view the Panama Canal is in a much better position, as the surrounding territory belongs to the U.S.A., not only nominally, but in fact, and it is moreover fortified, and being protected by vast expanses of water on each side, it is not exposed to any surprise attacks.

The small South American and Central American countries situated in its neighbourhood, are unimportant from a military point of view and will never wage war against the U.S.A. in the case of any political conflict.

is proved by the figures of ships passing through it: 2,700 were American ships, whilst the number of British ships was only 1,783.

Having thus drawn a general picture of the position of the Suez Canal from a political as well as from a world economic point of view, we will now cast a glance at the distant future. The future of the Suez Canal depends on how long the countries west of the Canal, *i.e.*, Europe, are able to maintain their rule over the territories east of the Canal, *i.e.*, over the Colonies. How long will white men still be the lords of Asia and Africa? How long will it take for the industry of the Colonies to develop to such an extent as to enable them to work up their own raw materials themselves, so that only such part of those raw materials will pass to Europe, and is needed for the requirements of the European population, when the return of raw materials to the East in a worked-up condition will cease? Another question is this: will the population of Europe, which is becoming more and more impoverished, be able to go on taking the raw materials of the tropics worked up into articles which often represent luxuries, to the extent it did during the period when Europe was economically at its zenith, during the last hundred years? The future of the Suez Canal depends upon the economic well-being of Europe, just as the future of the Panama Canal depends on that of the United States. This is the most important point of similarity between the two canals.

It can be seen from the table facing p. 315, that during recent years the traffic of the Suez Canal has shown a slight falling off. The four main reasons of this phenomenon are the following: (1) The decline in value of the Chinese silver currencies; (2) the câtastrophic fall in prices of some articles of world trade; (3) the increased difficulty of placing Australian and Manchurian agricultural products (particularly Australian wheat and Manchurian soya beans) on the European markets; finally (4) the boycott of British goods in India.

Ad (1). It is well known that the value of Far Eastern silver currencies has during the last two years declined owing to the fall in price of silver as compared to that of gold. Thus, for instance, the average value of the Chinese Mexican dollar during the month of February, 1932, was only 25·5 North American cents and that of a Shanghai tael only 33 North American cents. The value of the Hongkong dollar fluctuated at this time around 25·3 American cents.

It should be remembered that in 1924 the value of the tael was still 81 North American cents, whilst that of the Mexican dollar was 50 North American cents.

At the beginning of 1932 the Japanese yen (a currency based on gold) lost about 20 per cent. of its value as compared to 1929. (In 1929, 100 yen were equivalent to 49·50 U.S.A. dollars, and in February, 1932, only to 39·77 dollars.) The decline in value of the silver currencies of the Far East compared to those of the countries whose currency was based on a gold standard, reacted on goods traffic because Far Eastern merchants had to pay more, in their home currency, for the goods purchased in pounds, dollars, Swiss francs and French francs, and thus suffered very heavy losses owing to which their purchasing capacity during their next financial year was lessened. The decline in value of the silver tael and of the Mexican dollar has had an unfortunate influence on the purchasing capacity of the whole Chinese market, and accordingly it was no longer possible to place such a quantity of European industrial products on the Far Eastern markets as in previous years.

The riots in China have also caused the trade in certain kinds of goods to decline, whilst the trade in other articles (supplies of war materials by the French firm, Messrs. Schneider-Creuzot, and by the Czech firm of Messrs. Skoda, also of sanitary materials and of tinned food) has increased in quantity as well as in value.

Ad. (2). The catastrophic economic crisis of the years 1930–31 caused a considerable fall in the prices of many raw materials. Thus the price of rubber fell from 80·20 Straits dollars per cwt. in 1924 to 8·50 Straits dollars in

1931. Agricultural products as well as mineral products (Malayan zinc) also suffered severe set-backs.*

The fall of prices caused a great loss in Canal fees to the Company in those cases where the fees were payable on the basis of the value of the goods shipped, and, moreover, the economic depression caused a diminution of the whole volume of trade, as, even at the low rates ruling, Europe was unable to take the same quantities of raw materials as in previous years.

Ad (3). The Australian wheat crisis and the Manchurian soya bean crisis made their effects felt most keenly. The quantity of soya beans declined in 1930 as compared with 1929 by 650,000 tons. (Rice from Farther India represents about 170,000 tons in this total.) It should be mentioned that a part of the rice is still shipped to Europe in sailing ships (*viâ* the Cape of Good Hope); many tramp ships also follow this route, thus saving the Canal fee.

Ad (4). The boycott of British goods in India, a consequence of the anti-British movement started by Gandhi, has lessened the traffic from Europe to India; it is chiefly the quantity of British textile goods and machinery imported into India that has considerably declined.

As regards this book, the points which interest us particularly are: the decline in value of Eastern currencies, mentioned in paragraph 1, and the export crisis in soya beans, mentioned in paragraph 3.

The decrease in traffic was not noticeable so much in the tonnage of the ships which passed through the Suez Canal as in the weight in tons of the goods passing through it.

From 1926 to 1930 the quantity of goods passing through the Canal from north to south decreased by 3·5 million tons, and from south to north by 2·5 million tons. Among the causes mentioned above, it was the fall in the value of silver currencies, the Indian boycott and the Chinese riots that chiefly affected the trade from north to south, whilst it was the agrarian crisis and the fall in prices of raw materials that affected more particularly the traffic from south to north.

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* According to the figures published by the *Institut International du Statistique*, the price of copra on the New York market was, in 1929, 4·40 dollars per cwt., whilst in September, 1931, it was only 1·90 dollar per cwt. The price of zinc was, in London in 1924–26, £24 15*s*. a ton, in December, 1931, £14 7*s*. The lowest price level reached was £11 11*s*. in September, 1931.

The fact that, compared to shipping tonnage, the goods tonnage shipped has declined, of course means that a relatively high proportion of storage space remained unutilised; in consequence the quantities of goods transported were burdened with a greater amount of cost, which the shipping companies were naturally unable to throw on to the sellers or the purchasers.

The quantities of the most important articles which passed through the Suez Canal in different years are shown on the table below. There were shipped from Europe to the Colonies and the Far East:

| Year. | Quantities of goods are stated in thousands of tons. | | | | | |
|---|---|---|---|---|---|---|
| | Machinery. | Parts of railway equipment. | Oil. | Salt. | Cement. | Refined sugar. |
| 1913 . | 2,299 | 598 | 510 | 449 | 439 | 187 |
| 1917 . | 31 | 7 | 7 | 166 | 31 | — |
| 1929 . | 3,588 | 638 | 350 | 181 | 774 | 317 |
| 1932 . | 317 | 120 | — | 255 | — | 174 |

From the Far East to Europe:

| Year. | Quantities of goods are stated in thousands of tons. | | | | | |
|---|---|---|---|---|---|---|
| | Wheat. | Rice. | Mineral products. | Cotton. | Cane sugar. | Rubber. |
| 1913 . | 1,490 | 2,061 | 1,560 | 1,139 | 53 | 65 |
| 1917 . | 1,806 | 331 | 313 | 94 | 186 | 18 |
| 1929 . | 954 | 1,137 | 2,300 | 1,274 | 819 | 809 |
| 1932 . | 2,441 | — | 1,049 | — | — | 604 |

The extent to which the most important shipping companies maintaining service between Europe and the East shared in 1930 in the traffic through the Suez Canal was as follows:

| Name of Company. | Ship tonnage which passed through the Canal. | Number of ships. | New ships put in commission during the year. |
|---|---|---|---|
| Peninsular and Oriental company and other shipping companies belonging to the P. & O. concern | 3,397,000 | 486 | 5 |
| Alfred Holt and China Mutual line | 1,734,000 | 297 | 4 |
| Messageries Maritimes | 1,236,000 | 188 | 1 |
| Hamburg America line | 1,057,000 | 183 | 6 |
| Norddeutscher Lloyd | 735,000 | 115 | 6 |
| Nippon Yushen Kaisha | 654,000 | 100 | 2 |
| Wilhelm Wilhelmsen | 367,000 | 66 | 3 |
| Svenska Ostasiatisk | 244,000 | 48 | — |
| Dollar Line | 254,000 | 26 | 1 |
| Osaka Soshen Kaisha | 137,000 | 24 | — |
| Lloyd Triestino | 466,000 | 77 | — |

The number of shipping companies maintaining services between the Far East and Europe is very great. Of the Japanese shipping companies maintaining a regular service, the mail line Yokohama-London of the N.Y.K. has fortnightly sailings on this line, with (in 1931) ten ships having a total tonnage of about 130,699 tons.

For British, French, German, Italian, Scandinavian and Dutch shipping companies maintaining services between the Far East and Europe, see Chapter VII of Part II.

A direct service between the Far East and Africa is maintained only by the round-the-world service of the Osaka Soshen Kaisha, which, after Colombo, leaves the route to Europe and goes *viâ* Dar-es-Salaam, Zanzibar and the South African ports to the La Plata ports in South America. It is of relatively minor importance, and, from the point of view of passenger traffic, it is only recently, since the agreement between the Union of South Africa and Japan has come into force (see the June, 1931, number of the *Round Table*), that it has any importance at all.

The general *entrepôt* port between the Far East and Africa is Colombo, from which more frequent services to Africa are maintained by the Union Castle Mail line (a British shipping company) (London-Congo-Capetown-Durban-Dar-es-Salaam-Zanzibar-Colombo).

The route of the Union Castle Mail line is a part of the London-Capetown-India route, which at one time—before the opening of the Suez Canal—was of great importance.*

The increasing importance of the route referred to is shown by the table, taken from one of the publications of the Suez Canal (" Le Canal du Suez : Documents Statistiques, 1930 "), published on the next page.

According to this table, Far Eastern traffic represented in 1911, 23·13 per cent., and in 1929, 23·25 per cent. of the whole traffic passing through the Suez Canal.

Since British oil companies are producing increasing quantities of oil in Persia, and in the Dutch East Indies, the number of oil tank ships passing through the Suez Canal has considerably increased. The increase of traffic from the Persian Gulf, specified on p. 325, can be traced to this cause.†

In what follows we will say a few words about passenger tariffs between the Far East and Europe, which, in many respects, present peculiar features.

Although, on the Suez route, competition between the various shipping companies is at least as keen as on the Trans-Atlantic, and no cartel has been formed up to now, a few circumstances should, nevertheless, be taken into account when investigating passenger traffic here.

One of these is that the ships coming from the Far East transport passengers from the British and French, as well as by junction lines linking up with the Suez line at Singapore, the Dutch colonies, a great part of whom are public servants and military persons.

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* See p. 312

† In 1930 the number of tank ships which passed through the Suez Canal was 659, representing a total tonnage of 3,205,000 tons. Of this total 2,970,000 tons represent those of British companies.

The rules of colonial service authorise public servants and soldiers serving in the Colonies to spend their vacation of a few months each year in Europe at the expense of their country. These rules are rendered necessary owing to the harmful effects of the climate in the tropics. The passenger traffic thus created from British India, the Federated Malay States, French Indo-China, Java, Sumatra to Europe and back each year is very considerable. The various Governments assure passages at reduced rates, naturally on ships of their own nationality, to their officials on leave; this circumstance should not be left out of account when investigating the passenger tariff on this route, particularly as it does not exist on the other world shipping routes.*

### TRAFFIC OF THE SUEZ CANAL IN CONNECTION WITH VARIOUS ECONOMIC TERRITORIES

*The Figures mean Thousands of Tons*

| Year. | Red Sea | East Africa. | Persian Gulf. | British West coast. | India, East. | Indo-China Siam. | Sunda Islands and Malacca. | Australia New Zealand | China, Japan, Siberia and Philippine Islands. |
|---|---|---|---|---|---|---|---|---|---|
| 1911 | 389 | 838 | 329 | 3,701 | 4,611 | 456 | 1,714 | 1,847 | 4,179 |
| 1912 | 305 | 1,032 | 373 | 4,737 | 4,954 | 401 | 1,828 | 1,923 | 4,392 |
| 1913 | 273 | 1,038 | 296 | 4,086 | 5,013 | 639 | 1,830 | 1,988 | 4,442 |
| 1919 | 84 | 1,372 | 646 | 2,604 | 3,289 | 265 | 2,144 | 2,595 | 2,615 |
| 1920 | 141 | 1,586 | 659 | 2,986 | 3,753 | 403 | 2,523 | 1,359 | 3,796 |
| 1921 | 526 | 893 | 1,253 | 2,802 | 3,786 | 625 | 2,398 | 2,097 | 3,699 |
| 1922 | 489 | 841 | 1,956 | 3,436 | 4,338 | 270 | 2,455 | 2,406 | 4,472 |
| 1923 | 554 | 1,051 | 2,301 | 3,409 | 4,399 | 500 | 2,587 | 1,477 | 4,979 |
| 1924 | 512 | 1,123 | 2,667 | 4,116 | 5,016 | 480 | 2,693 | 2,529 | 5,671 |
| 1925 | 456 | 1,303 | 2,960 | 3,610 | 5,460 | 614 | 2,802 | 3,388 | 5,709 |
| 1926 | 400 | 1,475 | 3,384 | 2,819 | 4,932 | 598 | 2,847 | 3,163 | 5,888 |
| 1927 | 530 | 1,682 | 3,615 | 3,399 | 5,619 | 694 | 3,094 | 3,473 | 6,383 |
| 1928 | 507 | 1,832 | 3,867 | 3,659 | 5,970 | 901 | 3,955 | 3,435 | 7,186 |
| 1929 | 681 | 1,928 | 4,190 | 3,331 | 5,915 | 855 | 4,475 | 3,942 | 7,669 |
| 1932 | 599 | 1,621 | 4,589 | 2,445 | 4,486 | 875 | 2,863 | 3,334 | 7,102 |

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* Thus passages at reduced rates are assured to their officials and soldiers on the steamers of the P. & O. line by the British Government, and on the lines of the Messageries Maritimes by the French Government.

Another important circumstance which causes a difference between the summer and winter passenger traffic of the ships plying between Europe and the Far East is due to climatic conditions.

The very high temperature in some parts of the year in the neighbourhood of the Equator, and the monsoons raging at certain periods on the Indian Ocean, render travel very disagreeable. The result is differences in the price of travel at various seasons.

The ships coming from the Far East to Europe generally call at ten to twelve ports on their way. From each of these different ports the shipping companies charge identical fares. (Thus the fare from Osaka is equal to that from Kobe, or that from Singapore equal to that from Penang.) The reason is to be found in the existing competition with the railways.

Owing to conditions of climate, tariffs vary within individual classes, namely, the price of deck cabins, which are more airy, is considerably higher than that of other cabins. When travelling from east to west, the cabins on the right-hand side are cooler by 4 to 5 degrees than the cabins on the left-hand side of the ship, because in the hottest parts (Malacca Straits, Indian Ocean and Red Sea), they only get the early morning sun. This rule holds good in the reverse sense. These facts, as well as the fact that some of the shipping companies (Messageries Maritimes) at the request of passengers provide a special diet during the voyage through the tropics, have caused an amount of specialisation in passenger tariffs, which is unknown on any other line. Also special reductions allowed to particular persons * are more frequent on some lines compared to others. It may be said that it is only on paper that a uniform passenger tariff exists on the route between the Far East and Europe, and that prices really differ according to the kind of cabin, the

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* For instance, the N.Y.K. offers a reduction of 10–15 per cent. to groups of travellers consisting of more than five persons, actors, athletes, missionaries, members of the diplomatic service, whilst some British companies offer reductions to members of the diplomatic service, scientists, etc.

kind of food provided, and according to the position of the traveller. In the following table a part of the passenger tariff on the Yokohama-Marseilles route of the three most important shipping companies is published.*

FARES IN BRITISH GOLD POUNDS STERLING

| Company. | First Class. | | Second Class. | |
|---|---|---|---|---|
| | A. Cabins. | B. Cabins. | A. Cabins. | B. Cabins. |
| Nippon Yushen Kaisha . . | 102 | 97 | 66 | 66 |
| Messageries Maritimes . . | 100 | 100 | 70 | 70 |
| P. & O. . . . . . | 106 | 100 | 74 | 68 |

The fares fixed in pounds sterling were not changed during the fall in value and fluctuation of the rate of exchange of pound sterling in 1931–32. Of course the depreciation of the pound sterling has caused fares fixed in pounds sterling to become relatively cheaper as compared to the currencies of those countries which have not left the gold standard. It was due to this fact that in 1933 Dutch shipping companies reduced their rates by about 30 per cent. Independently of this, the N.Y.K. is reported to have effected a reduction of rates on certain routes at the end of 1932.

The passenger rates of cargo ships arranged for the transport of passengers as well are 30 to 60 per cent. lower.

A similar variation is noticeable in the goods tariffs, due partly to preferences given by certain countries to their dominions and colonies and to the difficulties of the economic situation as outlined on p. 319.†

The future development of shipping between the Far

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* Marseilles has been made the basis of comparison because the ships of all the three companies call there.

† The Ottawa Conference held in the autumn of 1932 has also determined the customs' tariffs between the various parts of the British Empire and as a consequence a part of the goods tariffs in the route in question has also been altered.

East and Europe depends on a large number of circumstances.

The causes mentioned on p. 319, which are responsible for the present falling off in the traffic, will not remain in existence for very long, and will vanish as soon as the economic depression becomes less marked.

On the other hand, the opening of freight traffic on the Trans-Siberian Railway, as well as the completion of the Hongkong-Peking Railway, represents a serious danger for the traffic.

As to the more distant future, those circumstances which will decide the fate of the Suez Canal, as explained on pp. 319, 320, will naturally influence the development of traffic with the Far East.

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# CHAPTER IV

## THE TRANS-SIBERIAN AND PACIFIC RAILWAYS AS ROUTES LEADING TO THE FAR EAST

THE picture drawn by us in Part III of communications between the Far East and the other parts of the world would not be complete unless we also mention the land routes leading to the Far East, *i.e.*, the Trans-Siberian Railway and the American Pacific Railways, which are not only important as carriers of the American goods and passenger traffic to the Far East, but are, as will be shown below, particularly with regard to passenger traffic, very important factors in communication between the Far East and Europe also.

Competition for the European travelling public on the routes to the Far East has, in consequence of the particular post-war situation (see p. 332), become very keen between the Trans-Siberian Railway and the American Pacific Railways.

We will first discuss the Trans-Siberian Railway which connects Europe with the Far East, but which is prevented from exerting its full economic influence by various political events which have taken place since it has been opened (Russo-Japanese war, military revolt, World War and Bolshevism).

The length of the railway is 6,505 kilometres. Its construction cost roughly 85 million pounds sterling; that of some of its sections, particularly those around Lake Baikal, was most expensive.

With the exception of certain sections (Omsk-Atchinsk, Atchinsk-Irkutsk) the Trans-Siberian Railway has a single track only. In accordance to the Five Years' Plan a great part of the railway has to be made double-track before the end of the year 1935; but, from the reports of persons who have travelled on the Trans-Siberian Railway in 1931, no construction work of any importance appears to have been done anywhere along the whole length of the railway. It is, therefore, very difficult to reconcile the reports of passengers with the maps published, evidently from Russian official data, in some literary publications (Georg Cleinow, "Roter Imperialismus"), on which a large part of the Trans-Siberian Railway is shown as being double-track.

At present a direct train from Vladivostok to Moscow runs once a week, whilst local trains on certain sections run daily. It is practically impossible to obtain exact data about the railway,* for the Russian official data published serve the purposes of propaganda and are therefore largely unreliable.

No regular transport of transit goods is now taking place on the Trans-Siberian Railway. Although this railway was originally constructed for goods traffic, no transit goods have ever been transported on it even during the Tzarist rule, because the railway, originally constructed for economic purposes, has always been employed for strategical purposes, to-day even to a greater extent than formerly.†

The railway, being single-track along almost the whole of its length, congestions of traffic are very frequent, even as it is, while goods trains would render any quick mobilisation, which might become necessary on this line of a length of 6,505 kilometres, impossible.

Profiting by the experience gained during the Russo-Japanese war, the Soviet authorities are keeping the railway closed to goods traffic in order to prevent congestion on the line which might prevent the Russian Army from concentrating in Manchuria.* In 1931, however, the Trans-Siberian Railway was opened to goods traffic in certain articles.

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* The author, through the mediation of a very distinguished international institution, asked for certain data from Moscow with regard to the Trans-Siberian Railway to assist him in writing the present chapter, but although this request was submitted six months ago, the data have not yet arrived.

† According to the latest reports, permission has been given for the carriage of German goods on the Trans-Siberian Railway, but this probably refers to those German goods which are supplied by a number of German firms to equip Siberian waterworks and industrial companies within the scope of the Five Years' Plan.

Until the railway is double-track along its whole length Russia cannot permit any increased goods traffic on the Trans-Siberian Railway without thereby jeopardising her own safety. It is, by the way, questionable whether the permanent way (substructure), which at present is in a very poor condition in the case of all the Russian railways, would be able to stand an increased strain placed upon it.† After the first Europe-Asia Transit Goods Conference, held in 1930, the line was opened to certain articles (viz., for seventy categories of goods).

If the Trans-Siberian Railway were opened to goods traffic, the keenest competition would be created between the water route between the Far East and Europe (*i.e.*, the Suez line) and the railway ; and, no doubt, the most bitter tariff war would result. In general, water route is certainly much cheaper than transport by rail, but, on the other hand, the greater rapidity of transport by the Trans-Siberian Railway (the journey from Tokyo to Berlin by the Trans-Siberian Railway takes twenty to twenty-one days, whilst the sea voyage from Tokyo to Naples, and thence by rail to Berlin takes thirty-eight days) would in certain categories of goods make this railway a very keen rival of shipping. The large volume of raw materials would no doubt continue to be shipped by sea, since, for instance, it is of no importance for the Paris or London market how long a time is taken for the transport of Japanese silk.

Of the postal traffic between Europe and the Far East it is, on the other hand, the Trans-Siberian Railway which is the exclusive carrier, even the letter and parcel post traffic from Hongkong to Europe passes *viâ* Siberia.* Later on, however, this traffic will be dealt with by the aerial line now being organised. (See p. 240.)

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* It is a well-known fact that in the Russo-Japanese war, the marshalling of the Russian army on the scene of war was delayed by the great congestion of traffic on the Siberian railway, whilst during the Chinese-Russian hostilities in the summer of 1929, the marshalling of the Russian forces was absolutely successful owing to the small traffic carried at that time by the Trans-Siberian Railway.

† See Georg Cleinow, " Roter Imperialismus," Part III.

It is also necessary to say a few words about the passenger traffic on the Trans-Siberian Railway, which, until the railway is opened to goods traffic to a greater extent than at present, is its chief claim to international importance.

Until the Canadian Pacific Railway opened its combined railway and shipping lines to the traffic between Europe and the Far East, the Trans-Siberian Railway occupied a dominant position with regard to passenger traffic; this rapid land communication between Europe and Japan and China was more popular than the long, and in many respects inconvenient, maritime route *viâ* Suez.

The political reasons mentioned on p. 329, which exerted a disadvantageous influence on the development of the Trans-Siberian Railway, made their effects felt, in the first place, in passenger traffic. Post-war conditions have still further inclined passenger traffic to avoid the Trans-Siberian route which before the War was so much frequented. Not only the distrust of Russian conditions, but also the guerilla wars between Russian and regular as well as irregular Chinese troops (see Nos. 82 and 85 of 1931 year of the *Round Table*), which have become almost a regular state of affairs on the Manchurian and Amour parts of the railway, are deflecting international passenger traffic from the Trans-Siberian Railway, on which interruptions of service lasting for several days are not unfrequent. In the meantime, the Canadian Pacific Company, which by its combined train and shipping service developed after the War has become a powerful rival of the Trans-Siberian Railway, has attracted a considerable part of the passenger service between Europe and the Far East to itself.

The travelling public of the Trans-Siberian Railway consists, in addition to Russians, chiefly of German and Japanese travellers, whilst the number of English and American and other travellers is relatively low.

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* From Hongkong a letter to Germany and to Central Europe in general, takes 24–26 days *viâ* Siberia, and 28–30 days *viâ* Suez.

The Pacific Railways connecting the eastern part of North America with the American ports on the Pacific Ocean, and through these with the Far East, have been mentioned earlier.

Through the Far East having become a part of the economic life of the world, the American Pacific Railways, which originally were the arteries for the economic utilisation of the American continent and for the colonisation of its western regions, have acquired increased importance from an American point of view.

It would be outside the scope of the present work to draw a complete picture of the function of the Pacific Railways in the economic life of America, as it is only in connection with Far Eastern traffic that we are interested in the Pacific Railways.

It must always be remembered that, from this point of view, the Pacific Railways are the American means of access to the shipping lines discussed in Chapter I of Part III, and the intensity of traffic on them depends in a great measure on the development of the shipping traffic between the Far East and America.

The Pacific Railways have a greater importance with regard to goods traffic than the Trans-Siberian Railway, namely, they represent the route by which the industrial products produced by the large industrial cities of the eastern part of the U.S.A. (New York, Philadelphia, Pittsburg, Cleveland, Detroit, Chicago, Baltimore, etc.) can be shipped most rapidly to the Far East. On this route the Pacific Railways are in very fierce competition with the shipping lines leading from the east coast of North America through the Panama Canal to the Far East, the economic importance and position of which has been discussed in the first chapter of the present Part.

The fierce competition between the Pacific Railways belonging to various companies has, as in the case of the fierce competition between the various shipping companies engaged in the trade between Europe and New York, resulted in a uniform tariff, so that at present it makes no difference by which Pacific line any lot of goods or any passenger reaches the Pacific ports from New York or from Chicago.

On the other hand, the cost of transport of goods from the eastern part of North America to the Far East can be computed only by a more intricate combination of tariffs, owing to the intense competition of the various shipping companies plying on the Pacific Ocean and to the fact that the tariffs of these ships vary (contrary to what is the case on the Atlantic Ocean) according to the type of ships and according to the great fluctuations in the prices of those raw materials (as copra, rubber, oil, etc.) which represent a considerable portion of the goods traffic on the Pacific Ocean. The fluctuation of these tariffs has been still further increased by the fall in value, due to the fall in the price of silver, of the Chinese silver tael, and, recently, by the fluctuation of the pound sterling and of the Japanese yen.

Under these circumstances the uniform tariffs of the North American Pacific Railways have become practically valueless as far as goods traffic to the Far East is concerned, as the route actually chosen will always depend on the tariffs charged by the various shipping companies, whilst often it will also happen that the goods will not make use of the Pacific Railways at all, but will make the whole journey by ship *viâ* the Panama Canal.

With regard to passenger traffic and postal traffic, however, the Pacific Railways represent a factor of the greatest importance, because the greatest part of the American passenger traffic to the Far East, and, owing to present conditions in Russia and Manchuria, a great part of the European traffic to the Far East as well is handled by them.

The keen competition for the passenger traffic between the Trans-Siberian and the Pacific Railways has become keener still since the Pacific Railways have direct connections in New York and Quebec with the ships arriving from Europe, and similarly in Vancouver, Seattle and San Francisco with the ships sailing to the Far East. It is the Canadian Pacific Railway (C.P.R.) which not only manages the Pacific Railway line in Canada, but also has regular sailings on the Atlantic and the Pacific Ocean, which is the keenest rival of the Trans-Siberian Railway. To-day the journey to the Far East from Europe is often shorter than by the Trans-Siberian Railway:

| *Viâ* Siberia. | | *Viâ* Canada. |
|---|---|---|
| 21-22 days | London-Tokyo | 19-20 days |
| 20-21 days | London-Peking | 21-22 days |
| 22-23 days | London-Shanghai | 23-24 days |
| 20-21 days | London-Kobe-Osaka | 20-21 days |
| 20-21 days | Berlin-Tokyo | 20-21 days |
| 23-24 days | Berlin-Shanghai | 25-26 days |
| 19-20 days | Berlin-Peking | 25-26 days |
| 19-20 days | Berlin-Kobe-Osaka | 21-22 days |

It can be seen from this table that, whilst the London-Tokyo line is two or three days shorter *viâ* Canada than *viâ* Siberia, from Berlin to Tokyo the time taken is the same in both cases. The boundary line of the spheres of influence of the two railways is approximately the line Copenhagen-Berlin-Budapest, but two facts decide the competition in favour of the C.P.R. One of these is that the large commercial and industrial countries of Europe (the greater and more important part of Germany, Great Britain, Holland, Belgium, France and Switzerland), *i.e.*, the countries having considerable economic relations with the Far East, are all within the sphere of influence of the C.P.R. The other is that a great part of the European travelling public prefers to avoid Bolshevist Russia.

One great advantage of the C.P.R., which may become particularly important with regard to certain classes of goods, is that by means of its fleet of ships on the Atlantic and on the Pacific Ocean and of its railway line in Canada, this company is able to transport goods and passengers from European ports to Far Eastern ports all the way by its own means of communication, and it is thus able to institute uniform principles of business management and a uniform tariff policy, so that it will not be affected to such an extent by the disadvantageous circumstances mentioned on p. 329.

As regards passenger tariffs, the C.P.R. will take a first-class passenger with a so-called throughfare ticket (the passenger making the whole journey by the means of communication owned by the C.P.R.) for about £150, and a second-class passenger for £100 from Europe to Yokohama. A first-class ticket from Berlin to Peking on the Trans-Siberian Railway costs about £50 (par), but this does not include food, which, in the case of the C.P.R., is furnished during the sea voyage (it should be mentioned in this connection that on the Suez line a first-class passage between Yokohama and Europe costs £102; a second-class one £66.

The total railway system of the more important Pacific lines crossing the North American continent amounts to a length of 60,000 kilometres. Of these the best known are the following: The Canadian Pacific Railway, already mentioned above, the Atlantic Ocean terminal of which is, during the winter months, Halifax, and from spring to autumn as long as the St. Lawrence River is navigable, Quebec and Montreal, or, for one of its branches, Toronto. The railway is about 5,100 kilometres long, and runs from Toronto through Fort William, Winnipeg, Regina and Calgary to the Pacific Ocean terminal Vancouver.

Another Pacific railway system in Canada is the Grand Trunk Railway, the importance of which, however, is less than that of the C.P.R. It should be remarked, that it is a characteristic of the Canadian system that its lines run from east to west, whilst connecting lines running from north to south do not exist. The reason is that, particularly in the provinces of Manitoba, Saskatchewan and

Alberta, the population in the regions north of the railway lines is very scanty, so that these great territories are not yet sufficiently developed economically, whilst Canadian settlement has been extended west of Toronto along the railway line running parallel to the U.S.A. frontier.

The most important Pacific railways in the U.S. are the following: The Missouri and Texas Pacific Railway (length of line 11,000 kilometres), connecting the towns of Pittsburg, St. Louis and Denver with a branch line toward Chicago. This railway belongs to the Gould concern.

The great Northern Railway serves mainly to connect the Puget Sound ports (Seattle and Tacoma) with Minneapolis and St. Paul, afterwards running to Chicago. Owing to its geographical position, this railway line is the greatest rival of the C.P.R. among all Pacific railways, its Pacific Ocean terminal being the Puget Sound, where Vancouver also is situated.

The Northern Pacific Railway connects Seattle with Portland and also touches St. Paul and Minneapolis.

The most important Pacific railway of the United States is the Central Pacific Railway, connecting Chicago with San Francisco and Los Angeles *viâ* Salt Lake City and Omaha. One of its branch lines runs to Galveston. Its length is about 5,500 kilometres.

The Southern Pacific Railway connects New Orleans and Galveston with San Francisco.

New York, the most important Atlantic port of the U.S.A., is connected with Chicago and St. Louis, the main junction point of the Pacific railways, by quite a series of different railway systems.

The only Pacific railway of South America is the Trans-Andine Railway, which connects the Atlantic ports at the mouth of the River La Plata (Buenos Aires and Montevideo) with the port of Valparaiso on the Pacific Ocean. It is a great drawback to this railway line that, during the winter, traffic is stopped on it for a period of varying length, whilst recently (since the end of March, 1932) goods traffic on this line has, owing to the customs war between the Argentine and Chile, declined to a minimum; consequently the railway has ceased to be profitable and has reduced its service to a very considerable extent. This railway, which is 1,400 kilometres long, was opened to traffic in the year 1910. As regards the Far East, it is only as a passenger route that it is important. With regard to the transport of goods it is of minor importance, because goods traffic to the Far East from the La Plata ports is effected by water, partly through the Panama Canal and partly through the Magellan Straits, for goods are unable to pay the very high freights of the Trans-Andine Railway necessary owing to the high cost of constructing this mountain railway running across the Andes mountain chain.

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# CHAPTER V

## TELEGRAPH, CABLE AND RADIO COMMUNICATIONS

As the economic importance of the Far East increased it had to be linked up with the international telegraph and cable system.

One of the main requirements of modern economic life is the possibility of rapid communication between points situated at a great distance from each other. The development of modern banking and finance (credit business, stock exchange business, clearing house business, transactions by cheque and current account, news service) has resulted in the decreasing importance of communication by letter, *i.e.*, by postal means in the proper sense of the word, as compared to communication by telegraph and telephone.

It is true that telegrams are more expensive than letters, but this difference is growing rather less.

Some considerable time ago already, British cable companies laid cables from Europe to connect British colonies in the East with the mother country. The Far East itself, however, became linked up with this system of cables only when intercourse between it and the other parts of the world became more active.

In what follows we will give an account of the cable and telegraph lines of international importance connecting the Far East with the other parts of the world, as well as of the radio and telephone connection recently established.

A point which must not be overlooked when discussing telegraphic communication of the Far East with the other parts of the world is the difference in the time of day between the place of despatch and the place of delivery of the telegram. This difference in the time of day is of great importance in economic life.

Between Japan and some other important parts of the world there exist the following time differences:

|  | West of Japan. | East of Japan. |  | West of Japan. | East of Japan. |
|---|---|---|---|---|---|
|  | Hours. | Hours. |  | Hours | Hours. |
| London | 9 | — | New York | — | 10 |
| Paris | 9 | — | Montreal | — | 10 |
| Berlin | 8 | — | Chicago | — | 9 |
| Rome | 8 | — | Puget Sound | — | 7 |
| Amsterdam | 8.40 | — | San Francisco | — | 7 |
| Stockholm | 8 | — | Buenos Aires | — | 11 |
| Budapest | 8 | — |  |  |  |
| Moscow | 7 | — | Sydney | — | 1 |
| Cairo | 7 | — | Singapore | 2 | — |
| Capetown | 7 | — | Colombo | 3.30 | — |
| Algir | 9 | — | China | — | — |

The foreign (non-Japanese) cable lines from Japan all start without exception from Nagasaki. (The connection with America is effected *viâ* the Island of Guam by the Japanese cable line mentioned on p. 247.)

In China the ports situated along the coast are connected partly into the system of the Great Eastern Company, and partly into that of the Great Northern Company, of which more will be said later. (See the map appended to the book, "General Information for Cable Users," published by the Great Northern and the Eastern Extension Australasia and China Telegraph Company.)

The most important cable company maintaining a connection between the Far East and the other parts of the world is the English Eastern Telegraph Company, which in 1928 owned a cable system 53,962 miles in length.* This company is in close co-operation with the British Government, and it has a company affiliated with it (the Eastern Extension Telegraph Company) which in 1894 linked up Hongkong *viâ* Singapore with the British cable system running *viâ* Suez to India and Australia.

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* This company was formed in 1872 by the amalgamation of four smaller companies. It possesses 110 cable lines.

The Eastern Extension and China Telegraph Company was formed by the amalgamation of three companies in 1873. Its length was in 1928 31,455 miles. It is working in close co-operation with the other British company named above, joining on at Singapore to the lines coming from Europe (*viâ* Malta, Suez) of that company and connecting the towns Shanghai, Foochow, Hongkong and Amoy, thus making China also a participant in the international cable system. The number of its lines is thirty-four.

The connection with North America is maintained by the Commercial Pacific Cable Company formed in 1902 (length of lines in 1906, 7,800 miles), the starting-point of which is San Francisco.

The Great Northern Company, a Danish company formed in 1868, which in 1928 possessed cable lines of 8,421 nautical miles in length (thirty-eight cable lines), maintains a cable line from Vladivostok to Hongkong, with a branch line from Vladivostok to Europe and from Hongkong to Southern Asia and Australia.

The so-called land telegraph between Europe and the Far East is only in part really a land telegraph.

The line of the Great Northern Telegraph Company starts from Copenhagen, or from Stockholm, and runs through Leningrad to Moscow. The Leningrad line and the Moscow line unite at Omsk, from which point a double line leads to Irkutsk, where the line again splits up. The southern branch goes down through Urga to Peking, and from there—by cable—to Chefoo, and *viâ* Shanghai and Amoy to Hongkong, where it joins on to the cable system leading over the Suez line. The northern (Japanese) line leads from Irkutsk *viâ* Blagovestchensk to Vladivostok, from where a double cable line leads to Nagasaki. Between Nagasaki and Shanghai there is again a connection between the two branches.

As this land telegraph line passes through Soviet territory, its serviceableness greatly depends on political conditions, and disturbances on it are frequent.

Notwithstanding the development of the cable system, the future, nevertheless, points to wireless telegraphs and telephones as the means of long-distance communication of messages, as these are not so easily upset by natural and political disturbances as cables, which are, in case of war, usually unable to be used.*

During recent years successful experiments have been made in the development of wireless telephones, which up to then were chiefly used by shipping, but have, during the last three years, been employed with increasing success in intercontinental traffic as well.

Beyond doubt the wireless telephone will be the most important rival of telegraphs and cables. A wireless telephone service between New York and Tokyo was opened in the autumn of 1931. A connection has been established between the Chinese station at Shanghai and Paris, as well as between the radio of the League of Nations and the various stations of the Far East, and a wireless telephone service between Batavia, Bangkok, Sydney and Europe was also installed during the year 1931.

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* For instance, the operation of the cable leading from the Far East (Hongkong) *viâ* Manila to the U.S.A. had to be stopped at the end of the last century, during the Spanish-American war, owing to the forcible action of the U.S.A. (Counter Admiral Dewey who wished to exercise control over this cable of a British company).

# CHAPTER VI

## A FORECAST OF FUTURE DEVELOPMENTS

IN the preceding pages an attempt has been made to draw a general picture of the present position of the various branches of communication in the Far East. Our researches have not been directed towards the investigation of technical points, but mainly to economic questions and to such political questions as are closely connected with the economic questions.

In the course of our investigations we have, as far as possible, avoided making any forecasts, as this would to a certain extent be unscientific ; on these last pages, nevertheless, we consider it permissible to cast a glance in the probable direction of future development.

Investigating the conditions ruling in the Far East, we detect the existence of a few points which make it appear likely that future development in these regions will be particularly active. The first of these points is—and this chiefly applies to China—the relatively large size of the regions dealt with and the relative scarcity of existing means of communication.

As explained in Chapter I of Part I, the incorporation of China into the sphere of interest of European-American-Japanese industry and commerce is inevitable. This modern form of colonisation has already begun during the last years. The speed at which such development may take place may vary, and will depend on a large number of international problems which we cannot discuss here. In any case, however, the gradual conquest of China will always keep pace with the development of modern means of communication in that country. Besides, since conditions ruling in any region will always influence corresponding conditions in adjacent regions, the development of means of communication in China will also influence those of Japan as well as traffic between the Far East and other parts of the world in general.

As regards China, it should also be pointed out that she is probably the only country in the world where the construction of any new railway lines still appears to be necessary.

This opinion is based on the following reasons:

Although roads as means of communication are older than railways, the development of the latter has on territories developed industrially or commercially always preceded that of the former.* It is only in countries where trade and industry have already reached a high degree of development that roads are serious competitors of railways, whilst in countries engaged merely in the production of raw materials, roads figure only as the routes over which the products of regions not served directly by the railways are transported to the latter. In the first stage of its development China will be nothing more than a huge territory for the production of raw materials, and possibly a consumer of the products of industrial countries importing the raw materials produced by China. The development of a Chinese industry will probably constitute a second stage of the development of China.

Another fact which makes it likely that railways will be extensively constructed in China is that a large part of the river system of China is to-day still unregulated, some rivers being, in fact, incapable of regulation,† and that the regulation of rivers to render them capable of navigation no longer pays. Therefore river shipping will not become a very serious rival of the railways, except perhaps on the lower Yangtze-kiang and on the large canals.‡

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* Compare, for instance, the Pacific railways, the Trans-Siberian Railway and the Central Africa railways.

† For instance, the River Hoang-ho. See Cholnoky, "Sárkányok országából." ("From the Land of Dragons.")

‡ It remains an open question as to what part will be played by freight junks. These may, at low freight rates and as chartered and tramp ships,

Unlike China, Japan to-day already lives the life of a country becoming rapidly industrialised. The number of industrial works in Japan was in 1883 only 125, whilst in 1912 it was already 17,062, and to-day it exceeds 50,000. (A. J. Brown, "Japans Aufstieg zur Weltmacht.")

Japanese industry, the purpose of which was at first only to cover home requirements, is now compelled to think of expansion, and in certain articles (such as cotton goods, silk and matches) it is already a formidable rival of British and American industry in Asia. (Compare the expansion of Japanese textile industry in India; see p. 293.) The natural outlets for the products of Japanese industry are China, and possibly India, as regards both quantity and value. Japan, being an island country and having necessarily to employ shipping for exporting her products, it is probable that though the shipping of some other countries, particularly of Great Britain, may show a certain decline, Japanese commercial maritime shipping will at least be able to maintain its present powerful position.

The increasing industrialisation of Japan, and the commercial development usually accompanying such industrialisation, will require the development of the road system of Japan, also necessary for the safety of the country. This will indirectly lead to the development of motoring, which will, in course of time, as in other countries, arrest to a certain extent the development of the railways.

Finally we will say a few words about the probable policy which some countries will follow in the near future in the Far East.

Russia, the European Power situated nearest to the Far East, being not yet sufficiently consolidated politically, is unable to think of any serious expansion. The policy pursued for many centuries by Tzarist Russia always

on inland waterways become serious rivals of the railways, particularly if socialism and communism, which are making great progress in China, are successful in uniting junk coolies into some federation.

aimed at obtaining an outlet on the open sea either in the east or in the west. The wars with the Swedes and the Poles, as well as the Crimean, the Balkan and the World War, indicate attempts to expand towards the west, whilst the expeditions to Turkestan, to the Caucasus and to the Amur, as well as the Japanese war, represent attempts to expand towards the east. The Pan-Slavist ideas of Tzarist Russia differ from the ideas of the Communist revolutionaries only as regards motives, not as regards methods.

At present Bolshevik Russia is not strong enough to permit her to make any forcible attempts in the direction of such expansion, and Bolshevik Russia has therefore directed its activities towards inland colonisation. The Five Year Plan includes a scheme of home colonisation (for instance, production of cotton in Turkestan and economic utilisation of Siberia), and aims finally at making Russia a self-supporting country. Indeed in Siberia, which covers an immense area and which has a very small population in comparison, there is a great possibility of development.

Accordingly, the future policy of Russia in the Far East will be rather defensive in character, and will aim at safeguarding Siberia against the Mongol races. Russia's railway policy and Bolshevist propaganda in China are both defensive in character, and aim at securing present possessions. Moreover, all the Soviet Union's available capital is required for home colonisation.

One of the Great Powers which has a comparatively small interest in China is France. The very slow growth of its population does not permit this country to waste its strength in attempting new schemes of colonisation. French capital, which, more than the capital of any other country, is governed by the interests of the politics of the day, is compelled to remain in the European markets.

On the other hand, the two great Anglo-Saxon Powers have a very considerable interest in the Far East.

Great Britain, in addition to her important economic interests, has important political interests which demand that she should take an active part in the solution of the problems of the Far East. The interests of the United States of America in the Far East are, however, almost entirely of an economic nature.

The future of Great Britain in Asia and the future of the British Empire are synonymous. It is true that, as far as the British Empire is concerned, the centre of gravity of its interests is not in China or the adjacent countries, but in India ; but it is beyond doubt that any movement breaking out at one end of Asia will find an echo at the other end of this continent as well. Asiatic religions have now in many respects received a new significance, and they may, in course of time, give birth to a new trend of ideas which may perhaps best be called "the Pan-Asiatic Idea."

Of the four large dominions of Great Britain (Australia, Canada, the Union of South Africa and India), those in which the Anglo-Saxon element is predominant, that is to say, Canada and Australia, are staunch supporters of Imperialism and of the union of the various parts of the British Empire in the person of the King. The other two dominions are not bound by similar sentiments to Great Britain, and that this is so has already been seen in the past (the Boer War in South Africa, the Sepoy revolt, Gandhi's Nationalist movement in India, etc.).

In one respect the Indian movements have already had an influence on events in the Far East, for, as a result of the boycott of British goods in India, the importation of Japanese textile goods into India has increased. As soon as Japan succeeds in becoming the leading country in Asia, a new period may begin in British policy with regard to India. At present Japanese and British interests are the same as far as questions of world politics are concerned. It was already evident at the time of the Russo-Japanese war that Great Britain, who looks upon Russia as a menace to British rule in India, considered Japan as her natural ally against Russia. Thus Great Britain always acts with a bias in favour of Japan, even at the expense of British interests in the Far East (last in March, 1932).

But as Hongkong, one of the most important links in the all-red route mentioned on p. 308, is situated in China, and as Singapore, another very important point of the all-red route, is seriously endangered by the very strong Chinese immigration, it is doubtful how long Great Britain will be able to maintain her comparatively moderate policy in the Far East.

The interests of the U.S.A. in the Far East are, as has been said, mostly of an economic nature. Here, of course, it must be borne in mind that with the North American nation (and with Anglo-Saxon nations in general) it is economic questions which are given first place, whereas in some other countries (Russia, France), particularly in pre-War times, questions of minor importance (matters of prestige, ideas of revanche, etc.) have been considered at least as important as economic questions.

In the U.S.A. particularly commercial and industrial interests have become identified to such an extent with national interests that it is impossible to speak of general home and foreign policy as being swayed by class interests.

U.S.A. capital has huge interests at stake in the Far East, partly in the form of loans (see pp. 25 and 26) and partly in the form of possessions, factories, etc. American patents in Japan also represent considerable amounts.

During and after the War the industry and commerce of the U.S.A. reorganised itself very largely with a view to trade with the Far East, that any disturbance or stoppage of this trade would be a very serious blow.

The U.S.A. will, accordingly, no doubt make every effort to retain the Far Eastern market until such time as it can find a more suitable market for its products (South America ?).

The future of the Far East depends largely on the future of Japan.

To-day, already, Japan is taking a part in the management of the world's affairs on equal terms with the other nations, and she can certainly not remain indifferent to the balance of power and to the economic and political formations taking shape in her immediate vicinity on her natural territory of expansion.

In this struggle the whole Japanese nation are united in the endeavour to fulfil the national aims of Japan, and the fact that these national aims are not merely class interests, but the real interests and aims of the whole people, is a source of great strength to Japan.

This uniform spirit, the greatest obstacle to any division of the Japanese people into classes or political groups, is chiefly due to the strong belief in the Japanese people that every one of them is a descendant of the first Japanese family, and that therefore all Japanese are naturally bound by the ties of family relationship. This idea is greatly fostered by the teachings, based on the cult of ancestors, of the widely spread Shinto religion. This idea is also one of the mainstays of the monarchical form of government. And as owing to the geographical position of Japan, as well as to the racial peculiarities of the Japanese people, there has been very little mingling with foreign races, it is unlikely that this idea will be undermined.

Japan has three great national aims, which explain why she has been compelled to resign the policy she has followed for many centuries and to extend the sphere of her political and economic life to the Asiatic continent (annexation of Korea, spheres of interest in Manchuria):

1. The Japanese population is to-day growing by about 800,000 souls each year, *i.e.*, by about 1 per cent. of its total number. (In Italy this percentage is 3 per cent., whilst in Hungary it is only 0·5 per cent.) Japan is unable to find room in her own land for this growing population. As immigration into the U.S.A., Australia and South Africa has been restricted by repressive measures of the Governments of these countries, and immigration into Northern Siberia is checked by climatic condi-

tions, the Japanese being unable to endure the rough climate of this country, Japan has been compelled to concentrate on Manchuria, as its only possible region for expansion.

2. Japan's growing industry, to which reference has been made repeatedly, is first and foremost aiming at the conquest of China.

3. Strategical reasons make it necessary to wage war on the continent of Asia in case of any possible conflict with Russia in order to save the territory of Japan proper from the ravages of war.

It can be seen from what has been said that for vital reasons Japan is compelled, for the first time in centuries, to pursue an aggressive policy. The expansion of Japan in Asia will result in the mingling of the Japanese race with peoples of other races and nationalities (in the first place with the Chinese and with the peoples of Siberia), and, as a result, the belief in a common ancestry, referred to above, will in the course of centuries be weakened.

We must say a few words here about China, which, in the past, has been and is, in the present, still the scene of political and economic struggles, and which has not been able up to now to take an active hand in the shaping of her own destiny.

Every time China attempted to do so (Tai-ping sedition, Boxer revolt, riots of a Communist nature, fighting in Manchuria, Chino-Japanese war) it had in the end to submit to the technical superiority and the more organised power of its antagonists.

Nor is it to be expected that the Chinese national movement (which is at present undoubtedly living through the period of its renascence) will, within a given time, be able to create a united Chinese Empire.

The customs, interests, and even the languages, of the various sections of the huge Chinese population are widely different. Within this huge empire the most widely different ideas and movements (Socialism, Communism, Nationalist ideas) are breaking up the unity of the Chinese people, and centrifugal economic tendencies are manifesting themselves in the various border regions, as a result of which these border regions will eventually split off. Manchuria gravitates towards Japan, Mongolia towards Russia, and the province of Yunan in South China towards French Indo-China, with which it is also connected by a railway, whilst its connection with China proper consists only of a road which is in poor condition. (See p. 228.)

By supporting certain provisional or local Chinese Governments, the various Great Powers are often, to thwart each other's political or economic policy, creating the greatest obstacles to the idea of any union of China.

The great amount of China's indebtedness and the absence of any formation of capital in the country itself, which points have already been mentioned in Chapter I of Part II, will likewise prevent China entering the scene as an active power in the Far East.

We have now come to the end of our investigations. The fundamental aspect predominant through their whole course is the economic struggle now going on in the Far East between the various Great Powers, owing to which they have, although unvoluntarily, made the Far East and the region of the Pacific Ocean one of the most important spheres of international politics.

As it is only through means of communication that any territory becomes economically utilisable, the outcome of this struggle will, in a great measure, depend on the condition and possibilities of development of the means of communication of China and Japan.

And as Europe and America are to-day still interested, more than Asia itself, in Asia and the Far East, these struggles, and therefore the means of communication of China and Japan, should be of interest to every European and American.

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